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EDINBURGH OBSERVATIONS, VOL. VIII.

To Sir J. F. W. Herschel Bart
Collingwood near Hawkhurst
Kent

*From the Royal Observatory,*
*Edinburgh.*

# ASTRONOMICAL OBSERVATIONS

MADE AT

# THE ROYAL OBSERVATORY, EDINBURGH,

1842.

# ASTRONOMICAL OBSERVATIONS

MADE AT

# THE ROYAL OBSERVATORY, EDINBURGH,

BY THE LATE

THOMAS HENDERSON, F.R.SS.L. & E., F.R.A.S.,

PROFESSOR OF PRACTICAL ASTRONOMY IN THE UNIVERSITY OF EDINBURGH,
AND HER MAJESTY'S ASTRONOMER FOR SCOTLAND.

REDUCED AND EDITED BY HIS SUCCESSOR,

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AND CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES OF PALERMO.

## VOL. VIII. FOR 1842.

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# INTRODUCTION.

The Royal Observatory of Edinburgh is situated on the Calton Hill, in the north-eastern quarter of the city, in Latitude 55° 57′ 23″·2 North, and Longitude $0^h\ 12^m\ 43^s{\cdot}0$ of time, or 3° 10′ 45″ of space, West of the meridian of Greenwich.

The upper surface of the square plinth of the base of the central column, bearing the Equatorial Telescope, is 349·16 feet above the mean level of the sea in the Firth of Forth at Leith.

The Observatory, and the principal instruments, viz., the Transit Instrument, Mural Circle, Equatorial Telescope, and Clock, are particularly described in the preceding volumes.

The objects chiefly observed with the Meridian Instruments during the year 1841 were the Sun, Moon, and Planets, the principal Stars for ascertaining the error and rate of the Clock, and the positions of the Instruments, the Moon-Culminating Stars, Stars contained in the Catalogue of the Royal Astronomical Society, and in Groombridge's Catalogue of Circumpolar Stars.

The volume is divided into three parts, whereof the *first* contains the Transit Observations and the Apparent Right Ascensions; the *second*, the Mural Circle Observations and the Apparent Declinations; and the *third*, the Catalogue of the Mean Right Ascensions and Declinations of the Stars, and the comparison of the Planetary Observations with the Nautical Almanac. Each part is immediately followed with an account of the elements employed in the respective Calculations.

The reductions have been executed in a precisely similar manner to that adopted last year; and the temperature fluctuations then discovered were found to exist to as large an amount, and with as strongly-marked features in these observations of 1842.

On one occasion only was there any anomaly, viz., on July 16; and this instance, which proved very puzzling at first, turned out in the end very instructive. Without any remarkable change of temperature the observation of $\alpha$ Ursæ Minoris S.P. in the evening, by Mr Wallace, shewed the instrument to be thrown out most extraordinarily, and to a position never attained at any other time of the year, and requiring, so far as the effect of heat was concerned, full 30° above summer heat to account for it: while by reason of the position of the transit on the east side of the building, no chance ray of evening sun-light, even had it such power, could have reached the piers or the Y*s*. The observations of the meridian marks soon after by Professor Henderson, gave the same anomalous result; but $\delta$ Ursæ Minoris taken in the middle of the night by Mr Wallace, shewed the instrument to have returned to its normal position, and this was confirmed by $\alpha$ Ursæ Minoris S.P. the next day.

None of these observations, it should be remarked, were computed at the time, and nothing unusual was suspected with the instrument; it was only when the calculations were taken up recently that the case appeared, and as each of the five Wires of $\alpha$ Ursæ Minoris S.P., by one observer, told the same effect, and this was so strikingly confirmed by the subsequent observations of the meridian marks by another observer; and as the instrument was also found to have returned to its usual position again during the night, some blow or other accidental and momentary violence might be expected to have been offered to the instrument.

Now Professor HENDERSON, having been always excessively scrupulous in taking into account every possible circumstance happening to his instruments, made it an invariable practice to enter in the observing books, not only any chance knock, in a very notable manner, but every untoward touch also, whether he thought or not at the time, that any sensible or appreciable effect would follow; and this principle being strictly followed by the Assistant-Astronomer also, and they alone having access to the instruments, which are separated by a locked partition from the rest of the observing room;—I examined their original entry-books, but could find no remarks tending in the smallest degree to elucidate the difficulty: nor did the Assistant's memory throw any light on the matter; until he remembered that about that period, and certainly at about the same time of day when the instrumental start took place, viz., one or two hours before the transit of $\alpha$ Ursæ Minoris S.P.,—the Observatory was visited by an illustrious personage and suite, who were taken into the locked enclosure of the transit by the Professor. As the next observation which was taken shewed an anomaly, such as had never been known before and has not appeared again, there can be little doubt how it took place; for in addition to the weakness of the old Y*s*, I have recently found that a person leaning against the stone piers, will bend them so much, though they are 3 feet 6 inches thick at the floor, as to produce an error of azimuth for the time, of ·06 of a second of time; while by leaning first against one and then the other a difference of position of ·12 of a second is produced.

The old Y*s* have now been removed, and solid massive blocks of cast-iron substituted, without any adjusting screws, the bearing points being in an angular trough cut in the body of the metal, and delicately filed, by successive approximations, until the instrument is as nearly in the meridian as can be desired for the purposes of calculation. Great firmness and strength have certainly thus been gained; and the reversion of the instrument for collimation does *not* now disturb the azimuthal position, as was so prejudicially the case in former times. All the violent and sudden temperature changes have also disappeared; but whether some small residual effect of heat, acting on the piers themselves, may still be discovered, is a matter to be determined only by continued observations. Should, however, such an action exist to a sensible extent, it is of no moment as regards the accuracy of the determinations of the places of Stars, as the effect of heat on such massive stone-pillars must be very slow, and may be easily corrected by calculation.

ROYAL OBSERVATORY, EDINBURGH.

# OBSERVATIONS

MADE WITH

# THE TRANSIT INSTRUMENT,

AND

# CALCULATION

OF

# APPARENT RIGHT ASCENSIONS.

1842.

| Date. | OBJECT OBSERVED. | Wire. I. | II. | III. | IV. | V. | Reduction to Mean of Wires. | | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. | s. | . | s. | s. | h. | m. | s. |
| Jan. 1 | α Ceti | 45·1 | 58·4 | 11·6 | 25·0 | 38·2 | 53 | 11·66 | +0·44 | +51·15 | +51·04 | 2 | 54 | 3·14 |
| | A.S.C. 346 | 45·8 | 0·5 | 15·3 | 30·1 | 45·0 | 0 | 15·34 | +0·34 | ......... | +51·05 | 3 | 1 | 6·73 |
| | α Aurigæ | 35·2 | 54·2 | 13·2 | 32·1 | 51·3 | 4 | 13·20 | +0·21 | ......... | +51·16 | 5 | 5 | 4·57 |
| | β Tauri | 59·4 | 14·3 | 29·5 | 44·7 | 0·0 | 15 | 29·58 | +0·33 | +51·16 | +51·18 | 5 | 16 | 21·09 |
| | α Orionis | 21·0 | 34·5 | 47·8 | 1·1 | 14·6 | 45 | 47·80 | +0·43 | +51·27 | +51·22 | 5 | 46 | 39·45 |
| Jan. 2 | Venus 2 Limb | 1·7 | 16·4 | 30·8 | 45·4 | 0·1 | 50 | 30·88 | +0·62 | ......... | +52·47 | 17 | 51 | 23·97 |
| | Mercury 2 Limb | ...... | 10·2 | 24·7 | 39·4 | 54·1 | 18 | 24·76 | +0·63 | ......... | +52·49 | 18 | 19 | 17·88 |
| | δ Ursæ Minoris | ...... | ...... | 1·0 | 44·5 | 28·0 | 22 | 0·80 | −3·86 | ......... | +52·49 | 18 | 22 | 49·43 |
| Jan. 3 | Sun 1 Limb | 4·4 | 18·8 | ...... | 47·8 | 2·2 | 53 | 33·30 | +0·69 | ......... | +52·51 | 18 | 54 | 26·50 |
| | Sun 2 Limb | 26·3 | 40·8 | 55·2 | 9·8 | 24·2 | 55 | 55·26 | +0·69 | ......... | +52·51 | 18 | 56 | 48·46 |
| | γ Aquilæ | 24·2 | 37·7 | 51·3 | 4·8 | 18·4 | 37 | 51·28 | +0·54 | +52·56 | +52·53 | 19 | 38 | 44·35 |
| | α Aquilæ | 44·1 | 57·4 | 11·0 | 24·4 | 37·8 | 42 | 10·94 | +0·54 | +52·53 | +52·53 | 19 | 43 | 4·01 |
| | 76 Pegasi | 22·8 | 36·6 | 50·4 | 4·1 | 18·0 | 33 | 50·38 | +0·51 | ......... | +52·67 | 23 | 34 | 43·56 |
| | τ Cassiopeæ | 38·7 | 3·7 | 28·7 | 53·6 | 18·7 | 38 | 28·68 | +0·15 | ......... | +52·67 | 23 | 39 | 21·50 |
| | A.S.C. 2853 | 2·6 | 16·4 | 30·0 | 43·8 | 57·7 | 43 | 30·10 | +0·65 | ......... | +52·67 | 23 | 44 | 23·42 |
| | A.S.C. 331 | 4·9 | 28·7 | 52·8 | 16·5 | 40·1 | 52 | 52·60 | +0·18 | ......... | +52·80 | 2 | 53 | 45·58 |
| | η Tauri | 45·8 | 0·4 | 15·0 | 29·7 | 44·1 | 37 | 15·00 | +0·46 | +52·82 | +52·83 | 3 | 38 | 8·29 |
| Jan. 4 | Instrument Reversed. | | | | | | | | | | | | | |
| | ζ Cygni | 47·7 | 3·0 | 18·2 | 33·5 | 48·7 | 5 | 18·22 | +0·52 | +53·57 | +53·57 | 21 | 6 | 12·31 |
| | ε Pegasi | 4·5 | 17·8 | 31·2 | 44·6 | 58·1 | 35 | 31·24 | +0·66 | +53·52 | +53·59 | 21 | 36 | 25·49 |
| | Mars 1 Limb | 55·1 | 8·8 | 22·6 | 36·2 | 49·8 | 3 | 22·50 | +0·79 | ......... | +53·61 | 22 | 4 | 16·90 |
| | Uranus | 35·9 | 49·1 | 2·6 | 15·8 | 29·2 | 27 | 2·52 | +0·73 | ......... | +53·67 | 23 | 27 | 56·92 |
| | ι Piscium | 28·9 | 42·2 | 55·5 | 8·8 | 22·1 | 30 | 55·50 | +0·68 | +53·83 | +53·68 | 23 | 31 | 49·86 |
| | 76 Pegasi | 21·3 | 35·1 | 48·8 | 2·8 | 16·5 | 33 | 48·90 | +0·62 | ......... | +53·68 | 23 | 34 | 43·20 |
| | ψ Andromedæ | 40·8 | 0·0 | 18·8 | 38·0 | 56·9 | 37 | 18·90 | +0·38 | ......... | +53·68 | 23 | 38 | 12·96 |
| | α Andromedæ | 50·0 | 5·1 | 20·3 | 35·3 | 50·4 | 59 | 20·22 | +0·54 | +53·62 | +53·69 | 0 | 0 | 14·45 |
| | γ Pegasi | 45·3 | 59·0 | 12·6 | 26·5 | 40·0 | 4 | 12·68 | +0·63 | +53·67 | +53·69 | 0 | 5 | 7·00 |
| | α Ursæ Minoris | 21·0 | 40·5 | 0·0 | ...... | 37·5 | 1 | 59·97 | −11·37 | ......... | +53·73 | 1 | 2 | 42·33 |
| | Ceres | 26·8 | 40·2 | 53·5 | 7·0 | 20·2 | 10 | 53·54 | +0·72 | ......... | +53·73 | 1 | 11 | 47·99 |
| | g′ Orionis | 43·0 | 56·4 | 9·8 | 23·1 | 36·3 | 4 | 9·72 | +0·69 | ......... | +53·88 | 5 | 5 | 4·29 |
| | A.S.C. 626 | 5·0 | 18·8 | 32·3 | 46·0 | 59·8 | 9 | 32·38 | +0·81 | ......... | +53·89 | 5 | 10 | 27·08 |
| | ν Leporis | 19·6 | 33·2 | 46·7 | 0·3 | 13·8 | 11 | 46·72 | +0·78 | ......... | +53·89 | 5 | 12 | 41·39 |
| | ξ Leporis | 56·6 | 10·4 | 23·9 | 37·6 | 51·3 | 15 | 23·96 | +0·80 | ......... | +53·89 | 5 | 16 | 18·65 |
| | A.S.C. 658 | 23·7 | 37·1 | 50·8 | 4·5 | 18·0 | 18 | 50·82 | +0·78 | ......... | +53·89 | 5 | 19 | 45·49 |
| | 32 Orionis | 1·1 | 14·2 | 27·5 | 41·0 | 54·2 | 21 | 27·60 | +0·67 | ......... | +53·90 | 5 | 22 | 22·17 |
| | 38 Orionis | 39·0 | 52·3 | 5·6 | 19·0 | 32·2 | 25 | 5·62 | +0·69 | ......... | +53·90 | 5 | 26 | 0·21 |
| | φ² Orionis | 54·3 | 8·0 | 21·3 | 34·8 | 48·4 | 27 | 21·36 | +0·66 | ......... | +53·90 | 5 | 28 | 15·92 |
| | 49 Orionis | 55·1 | 8·5 | 22·0 | 35·5 | 48·8 | 30 | 21·98 | +0·75 | ......... | +53·91 | 5 | 31 | 16·64 |
| | 51 Orionis | 59·6 | 12·8 | 26·0 | 39·4 | 52·8 | 33 | 26·12 | +0·71 | ......... | +53·91 | 5 | 34 | 20·74 |
| | 52 Orionis | 11·9 | 25·4 | 38·7 | 52·1 | 5·4 | 38 | 38·70 | +0·71 | ......... | +53·91 | 5 | 39 | 33·32 |
| | ξ Aurigæ | 59·2 | 22·7 | 46·1 | 9·7 | 33·1 | 40 | 46·16 | +0·24 | ......... | +53·92 | 5 | 41 | 40·32 |
| Jan. 5 | Uranus | 41·5 | 54·8 | 8·0 | 21·5 | 34·7 | 27 | 8·10 | +0·78 | ......... | +54·76 | 23 | 28 | 3·64 |
| | γ Cephei | 1·7 | 0·0 | 57·9 | 56·2 | 54·0 | 31 | 57·96 | −0·62 | ......... | +54·76 | 23 | 32 | 52·10 |
| | ψ Andromedæ | 40·3 | 59·1 | 18·0 | 37·0 | 56·0 | 37 | 18·08 | +0·42 | ......... | +54·76 | 23 | 38 | 13·26 |
| | A.S.C. 2853 | 0·1 | 13·8 | 27·6 | 41·3 | 55·1 | 43 | 27·58 | +0·83 | ......... | +51·76 | 23 | 44 | 23·17 |
| | α Andromedæ | 49·0 | 4·1 | 19·1 | 34·2 | 49·2 | 59 | 19·12 | +0·57 | +54·68 | +54·77 | 0 | 0 | 14·46 |
| | α Aurigæ | 30·9 | 50·0 | 9·1 | 28·3 | 47·2 | 4 | 9·10 | +0·41 | ......... | +55·04 | 5 | 5 | 4·55 |
| | β Orionis | 36·5 | 49·7 | 3·1 | 16·4 | 29·8 | 6 | 3·10 | +0·80 | +55·09 | +55 05 | 5 | 6 | 58·95 |
| | β Tauri | 55·0 | 10·2 | 25·4 | 40·4 | 55·7 | 15 | 25·34 | +0·57 | +55·17 | +55·06 | 5 | 16 | 20·97 |
| | δ Orionis | 36·0 | 49·3 | 2·5 | 15·9 | 29·3 | 23 | 2 60 | +0·74 | +55·09 | +55·06 | 5 | 23 | 58·40 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 5 | 38 Orionis | 38·0 | 51·2 | 4·5 | 17·8 | 31·1 | 25 4·52 | + 0·71 | ……… | +55·07 | 5 26 0·30 |
| | $\varphi^2$ Orionis | 53·3 | 6·8 | 20·4 | 33·8 | 47·2 | 27 20·30 | + 0·68 | ……… | +55·07 | 5 28 16·05 |
| | 49 Orionis | 54·1 | 7·3 | 20·8 | 34·1 | 47·5 | 30 20·76 | + 0·78 | ……… | +55·08 | 5 31 16·62 |
| | α Bootis | 3·6 | 17·8 | 32·0 | 46·1 | 0·1 | 7 31·92 | + 0·63 | +55·45 | +55·40 | 14 8 27·95 |
| | λ Virginis | 11·2 | 25·0 | 38·6 | 52·1 | 5·8 | 9 38·54 | + 0·83 | ……… | +55·40 | 14 10 34·77 |
| | ε Bootis | 39·5 | 54·6 | 9·5 | 24·5 | 39·6 | 37 9·54 | + 0·57 | +55·41 | +55·42 | 14 38 5·53 |
| | Moon 2 Limb | 58·2 | 13·0 | 27·7 | 42·3 | 57·1 | 44 27·66 | + 0·87 | ……… | +55·42 | 14 45 23·95 |
| | β Ursæ Minoris | 36·0 | 26·7 | 17·4 | 8·2 | 58·8 | 50 17·42 | − 0·44 | ……… | +55·43 | 14 51 12·41 |
| Jan. 6 | α Cygni | 28·3 | 47·1 | 5·8 | 24·5 | 43·0 | 35 5·74 | + 0·44 | ……… | +55·58 | 20 36 1·76 |
| | ε Pegasi | 2·1 | 15·7 | 29·1 | 42·6 | 56·0 | 35 29·10 | + 0·71 | +55·61 | +55·62 | 21 36 25·43 |
| | Mars 1 Limb | 48·8 | 2·4 | 16·0 | 29·6 | 43·3 | 9 16·02 | + 0·85 | ……… | +55·66 | 22 10 12·53 |
| | 30 Cephei | 8·1 | 37·2 | 6·1 | 35·3 | 4·2 | 32 6·18 | + 0·11 | ……… | +55·68 | 22 33 1·97 |
| | A.S.C. 2757 | 29·6 | 2·6 | 35·8 | 9·0 | 42·0 | 56 35·80 | − 0·01 | ……… | +55·71 | 22 57 31·50 |
| | A.S.C. 2853 | 59·0 | 12·7 | 26·4 | 40·3 | 54·0 | 43 26·48 | + 0·86 | ……… | +55·74 | 23 44 23·08 |
| | α Andromedæ | 47·8 | 3·0 | 18·0 | 33·1 | 48·1 | 59 18·00 | + 0·59 | +55·76 | +55·76 | 0 0 14·35 |
| | Groombridge 29 | 35·2 | 31·0 | 25·8 | 21·1 | 16·3 | 6 25·88 | − 0·59 | ……… | +55·76 | 0 7 21·05 |
| | α Ursæ Minoris | 18·0 | 37·5 | 56·5 | 15·5 | 35·0 | 1 56·50 | −12·59 | ……… | +55·83 | 1 2 39·74 |
| | Ceres | 35·7 | 49·0 | 2·4 | 15·7 | 29·0 | 12 2·36 | + 0·78 | ……… | +55·84 | 1 12 58·98 |
| | Vesta | 7·5 | 21·0 | 34·3 | 47·5 | 0·7 | 38 34·20 | + 0·75 | ……… | +55·86 | 1 39 30·81 |
| | 50 Cassiopeæ | 46·2 | 28·6 | 10·8 | 53·1 | 35·0 | 49 10·74 | − 0·25 | ……… | +55·87 | 1 50 6·36 |
| | Piazzi II. 255 | 40·0 | 40·8 | 40·5 | 40·2 | 40·0 | 59 40·30 | − 0·74 | ……… | +55·94 | 2 0 35·50 |
| | A.S.C. 413 | 42·4 | 56·7 | 11·3 | 26·0 | 40·5 | 37 11·38 | + 0·62 | ……… | +55·97 | 3 38 7·97 |
| | Groombridge 784 | 8·8 | 2·5 | 56·0 | 50·4 | 43·8 | 59 56·30 | − 0·56 | ……… | +56·02 | 4 0 51·76 |
| | ϱ Tauri | 31·1 | 44·9 | 58·8 | 12·3 | 26·0 | 23 58·62 | + 0·68 | ……… | +56·04 | 4 24 55·34 |
| | α Tauri | 29·4 | 43·1 | 57·0 | 11·0 | 24·7 | 25 57·04 | + 0·68 | +56·14 | +56·05 | 4 26 53·77 |
| | 7 Camelopardi | 0·8 | 23·1 | 45·4 | 7·7 | 30·1 | 43 45·42 | + 0·32 | ……… | +56·06 | 4 44 41·80 |
| | 98 Tauri | 6·2 | 20·7 | 35·4 | 50·0 | 4·7 | 47 35·40 | + 0·61 | ……… | +56·06 | 4 48 32·07 |
| | A.S.C. 596 | 16·0 | 31·1 | 46·1 | 1·2 | 16·2 | 57 46·12 | + 0·59 | ……… | +56·07 | 4 58 42·78 |
| | 68 Eridani | 32·5 | 46·0 | 59·3 | 12·5 | 25·9 | 59 59·24 | + 0·80 | ……… | +56·07 | 5 0 56·11 |
| | ϱ′ Orionis | 40·6 | 54·0 | 7·4 | 20·8 | 34·1 | 4 7·38 | + 0·75 | ……… | +56·08 | 5 5 4·21 |
| | A.S.C. 626 | 2·8 | 16·5 | 30·1 | 43·8 | 57·3 | 9 30·10 | + 0·86 | ……… | +56·08 | 5 10 27·04 |
| | ν Leporis | 17·3 | 31·0 | 44·5 | 58·1 | 11·7 | 11 44·52 | + 0·85 | ……… | +56·09 | 5 12 41·46 |
| | ξ Leporis | 54·4 | 8·0 | 21·7 | 35·4 | 49·1 | 15 21·72 | + 0·86 | ……… | +56·09 | 5 16 18·67 |
| | A.S.C. 658 | 21·3 | 35·0 | 48·4 | 2·2 | 15·6 | 18 48·50 | + 0·85 | ……… | +56·09 | 5 19 45·44 |
| | 32 Orionis | 58·8 | 12·1 | 25·4 | 38·6 | 52·0 | 21 25·38 | + 0·74 | ……… | +56·10 | 5 22 22·22 |
| | 38 Orionis | 36·8 | 50·1 | 3·5 | 16·8 | 30·0 | 25 3·44 | + 0·75 | ……… | +56·10 | 5 26 0·29 |
| | ε Orionis | 50·8 | 4·0 | 17·3 | 30·6 | 43·8 | 27 17·30 | + 0·78 | +56·08 | +56·10 | 5 28 14·18 |
| | 51 Orionis | 57·1 | 10·6 | 24·0 | 37·2 | 50·5 | 33 23·88 | + 0·77 | ……… | +56·11 | 5 34 20·76 |
| | 52 Orionis | 9·7 | 23·1 | 36·5 | 50·0 | 3·2 | 38 36·50 | + 0·74 | ……… | +56·11 | 5 39 33·35 |
| | 56 Orionis | 53·1 | 6·5 | 19·8 | 33·1 | 46·4 | 43 19·78 | + 0·76 | ……… | +56·12 | 5 44 16·66 |
| | A.S.C. 761 | 20·1 | 57·8 | 35·5 | 13·1 | 51·0 | 0 35·50 | − 0·14 | ……… | +56·14 | 6 1 31·50 |
| | α Coronæ borealis | 33·0 | 48·0 | 3·2 | 18·0 | 33·0 | 27 3·04 | + 0·60 | +56·35 | +56·35 | 15 27 59·99 |
| | α Serpentis | 5·7 | 19·0 | 32·4 | 45·8 | 59·1 | 35 32·40 | + 0·73 | +56·35 | +56·35 | 15 36 29·48 |
| | Moon 2 Limb | 36·6 | 51·6 | 6·8 | 21·9 | 37·0 | 40 6·78 | + 0·93 | ……… | +56·36 | 15 41 4·07 |
| | ζ Ursæ Minoris | 40·1 | 45·2 | 50·0 | 56·2 | 1·0 | 48 50·50 | − 0·87 | ……… | +56·37 | 15 49 46·00 |
| | Venus 2 Limb | 52·2 | 6·5 | 21·1 | 35·7 | 50·1 | 12 21·12 | + 0·92 | ……… | +56·45 | 18 13 18·49 |
| | δ Ursæ Minoris | 30·0 | 14·0 | 57·0 | 41·5 | 24·0 | 21 57·30 | − 4·93 | ……… | +56·46 | 18 22 48·83 |
| Jan. 7 | Sun 1 Limb | 34·6 | 49·1 | 3·5 | 18·0 | 32·3 | 11 3·50 | + 1·08 | ……… | +56·50 | 19 12 1·08 |
| | Sun 2 Limb | 56·1 | 10·6 | 25·0 | 39·5 | 53·9 | 13 25·02 | + 1·08 | ……… | +56·50 | 19 14 22·60 |
| | α Cygni | 27·2 | 45·8 | 4·5 | 23·3 | 42·0 | 35 4·56 | + 0·49 | ……… | +56·55 | 20 36 1·60 |
| | ε Pegasi | 1·0 | 14·5 | 28·0 | 41·4 | 55·0 | 35 27·98 | + 0·83 | +56·60 | +56·59 | 21 36 25·40 |
| | Mars 1 Limb | 45·0 | 58·6 | 12·1 | 25·7 | 39·3 | 12 12·14 | + 0·99 | ……… | +56·63 | 22 13 9·76 |
| | Uranus | 53·0 | 6·3 | 19·5 | 32·9 | 46·1 | 27 19·56 | + 0·93 | ……… | +56·67 | 23 28 17·16 |
| | ι Piscium | 25·7 | 39·1 | 52·5 | 5·8 | 19·1 | 30 52·44 | + 0·86 | +56·68 | +56·68 | 23 31 49·98 |
| | Groombridge 29 | 34·7 | 30·0 | 25·0 | 20·2 | 15·2 | 6 25·02 | − 0·76 | ……… | +56·70 | 0 7 20·96 |
| | α Ursæ Minoris | 18·0 | 37·0 | 56·5 | 16·0 | …… | 1 56·84 | −14·66 | ……… | +56·78 | 1 2 38·96 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 7 | θ′ Ceti | 44·0 | 57·5 | 11·0 | 24·4 | 38·0 | 15 10·98 | + 0·97 | +56·80 | +56·81 | 1 16 8·76 |
| | Vesta | 43·7 | 57·1 | 10·4 | 23·6 | 36·8 | 39 10·32 | + 0·88 | ········· | +56·82 | 1 40 8·02 |
| | 50 Cassiopeæ | 45·4 | 27·2 | 9·6 | 52·1 | 34·0 | 49 9·66 | − 0·34 | ········· | +56·83 | 1 50 6·15 |
| | A.S.C. 331 | 0·4 | 24·1 | 47·8 | 11·6 | 35·4 | 52 47·86 | + 0·28 | ········· | +56·89 | 2 53 45·03 |
| | Piazzi II. 255 | 40·2 | 40·0 | 39·6 | 39·2 | 39·0 | 59 39·60 | − 1·02 | ········· | +56·90 | 3 0 35·48 |
| | A.S.C. 413 | 41·1 | 55·8 | 10·3 | 24·9 | 39·3 | 37 10·28 | + 0·72 | ········· | +56·93 | 3 38 7·93 |
| | 39 Tauri | 35·3 | 49·6 | 4·0 | 18·3 | 32·6 | 55 3·96 | + 0·73 | ········· | +56·95 | 3 56 1·64 |
| | Groombridge 784 | 7·6 | 1·6 | 55·2 | 49·2 | 42·8 | 59 55·28 | − 0·73 | ········· | +56·96 | 4 0 51·51 |
| | ϱ Tauri | 30·2 | 44·0 | 57·8 | 11·4 | 25·1 | 23 57·70 | + 0·79 | ········· | +57·01 | 4 24 55·50 |
| | α Tauri | 28·4 | 42·1 | 56·0 | 9·9 | 23·8 | 25 56·04 | + 0·79 | +57·03 | +57·02 | 4 26 53·85 |
| | 7 Camelopardi | 59·5 | 22·1 | 44·4 | 6·6 | 29·0 | 43 44·32 | + 0·35 | ········· | +57·03 | 4 44 41·70 |
| | 10 Camelopardi | 36·8 | 3·4 | 29·8 | 57·0 | 23·5 | 48 30·10 | + 0·17 | ········· | +57·03 | 4 49 27·30 |
| | A.S.C. 596 | 15·0 | 30·0 | 45·0 | 0·1 | 15·2 | 57 45·06 | + 0·68 | ········· | +57·04 | 4 58 42·78 |
| | 16 Orionis | 15·9 | 29·4* | 42·8 | 56·2 | 9·7 | 59 42·80 | + 0·83 | ········· | +57·04 | 5 0 40·67 |
| | ϱ′ Orionis | 39·5 | 52·9 | 6·5 | 19·6 | 33·0 | 4 6·30 | + 0·88 | ········· | +57·05 | 5 5 4·23 |
| | 18 Orionis | 55·0 | 8·6 | 22·1 | 35·7 | 49·3 | 6 22·14 | + 0·83 | ········· | +57·05 | 5 7 20·02 |
| Jan. 8 | Sun 1 Limb | 56·0 | 10·5 | 24·8 | 39·4 | 53·7 | 15 24·88 | + 0·87 | ········· | +57·76 | 19 16 23·51 |
| | Sun 2 Limb | 17·4 | 31·8 | 46·2 | 0·7 | 15·1 | 17 46·24 | + 0·87 | ········· | +57·76 | 19 18 44·87 |
| | α Aquilæ | 38·7 | 52·2 | 5·5 | 19·0 | 32·5 | 42 5·58 | + 0·69 | +57.78 | +57·78 | 19 43 4·05 |
| | η Tauri | 40·4 | 55·0 | 9·6 | 24·1 | 38·5 | 37 9·52 | + 0·60 | +58·12 | +58·12 | 3 38 8·24 |
| | γ′ Eridani | 15·2 | 28·6 | 42·5 | 56·0 | 10·0 | 49 42·46 | + 0·82 | +58·18 | +58·13 | 3 50 41·41 |
| | α Tauri | 27·3 | 41·1 | 55·0 | 9·0 | 22·7 | 25 55·02 | + 0·65 | +58·19 | +58·15 | 4 26 53·82 |
| | 10 Camelopardi | 35·5 | 2·2 | 29·1 | 55·8 | 22·5 | 48 29·02 | + 0·18 | ········· | +58·15 | 4 49 27·35 |
| | A.S.C. 596 | 14·0 | 28·9 | 44·0 | 59·1 | 14·1 | 57 44·02 | + 0·57 | ········· | +58·16 | 4 58 42·75 |
| | A.S.C. 617 | 34·0 | 47·4 | 1·0 | 14·3 | 27·6 | 5 0·86 | + 0·79 | ········· | +58·16 | 5 5 59·81 |
| | 18 Orionis | 54·1 | 7·6 | 21·0 | 34·6 | 48·1 | 6 21·08 | + 0·68 | ········· | +58·16 | 5 7 19·92 |
| | 21 Orionis | 33·6 | 46·9 | 0·1 | 13·5 | 26·6 | 10 0·14 | + 0·73 | ········· | +58·17 | 5 10 59·04 |
| | 29 Orionis | 56·5 | 10·1 | 23·5 | 36·9 | 50·4 | 15 23·48 | + 0·79 | ········· | +58·17 | 5 16 22·44 |
| | 32 Orionis | 56·6 | 10·0 | 23·2 | 36·6 | 50·1 | 21 23·30 | + 0·71 | ········· | +58·17 | 5 22 22·18 |
| | λ Orionis | 3·0 | 16·3 | 29·8 | 43·1 | 56·7 | 25 29·78 | + 0·69 | ········· | +58·17 | 5 26 28·64 |
| | 51 Orionis | 55·2 | 8·6 | 21·8 | 35·1 | 48·4 | 33 21·82 | + 0·74 | ········· | +58·17 | 5 34 20·73 |
| | α Orionis | 14·0 | 27·3 | 40·7 | 54·1 | 7·5 | 45 40·72 | + 0·70 | +58·11 | +58·18 | 5 46 39.60 |
| Jan. 11 | 23 Piscium | 53·3 | 7·7 | 21·9 | 36·2 | 50·4 | 43 21·90 | + 0·65 | ········· | +60·57 | 23 44 23·12 |
| | α Andromedæ | 43·1 | 58·1 | 13·2 | 28·2 | 43·3 | 59 13·18 | + 0·60 | +60·51 | +60·58 | 0 0 14·36 |
| | γ Pegasi | 38·3 | 52·0 | 5·7 | 19·4 | 33·0 | 4 5·68 | + 0·69 | +60·51 | +60·58 | 0 5 6·95 |
| | γ′ Eridani | 12·2 | 26·0 | 39·5 | 53.2 | 7·1 | 49 39·60 | + 0·86 | +60·98 | +60·92 | 3 50 41·38 |
| | Groombridge 784 | 3·5 | 57·6 | 51·0 | 45·2 | 39·0 | 59 51·26 | − 0·53 | ········· | +60·92 | 4 0 51·65 |
| | α Tauri | 24·6 | 38·4 | 52·1 | 6·1 | 20·0 | 25 52·24 | + 0·69 | +60·92 | +60·95 | 4 26 53·88 |
| | 10 Camelopardi | 33·2 | 0·0 | 26·4 | 53·2 | 19·6 | 48 26·48 | + 0·20 | ········· | +60·96 | 4 49 27·64 |
| | μ Aurigæ | 5·2 | 22·2 | 39·1 | 56·0 | 13·0 | 1 39·10 | + 0·52 | ········· | +60·97 | 5 2 40·59 |
| | δ Ursæ Minoris | 26·0 | 9·5 | 52·0 | 35·5 | 19·0 | 21 52·40 | − 4·80 | ········· | +61·19 | 18 22 48·79 |
| | α Lyræ | 58·7 | 15·7 | 32·7 | 49·8 | 6·8 | 30 32·74 | + 0·52 | +61·07 | +61·20 | 18 31 34·46 |
| Jan. 12 | ι Piscium | 21·1 | 34·4 | 47·7 | 1·1 | 14·5 | 30 47·76 | + 0·90 | + 61·28 | +61·48 | 23 31 50·14 |
| | 23 Piscium | 52·4 | 6·7 | 20·8 | 35·0 | 49·1 | 43 20·80 | + 0·77 | ········· | +61·50 | 23 44 23·07 |
| | α Andromedæ | 41·8 | 56·8 | 12·0 | 27·1 | 42·1 | 59 11·96 | + 0·71 | + 61·61 | +61·53 | 0 0 14·20 |
| | α Ursæ Minoris | 11·0 | 31·5 | 50·0 | 10·0 | 27·5 | 1 50·00 | −15·67 | ········· | +61·55 | 1 2 35·88 |
| | Ceres | 27·0 | 40·2 | 53·6 | 7·0 | 20·2 | 15 53·60 | + 0·94 | ········· | +61·55 | 1 16 56·09 |
| | 50 Cassiopeæ | 40·2 | 22·5 | 4·8 | 47·2 | 29·5 | 49 4·84 | − 0·40 | ········· | +61·56 | 1 50 6·00 |
| | 12 Trianguli | 24·0 | 39·1 | 54·3 | 9·6 | 24·8 | 17 54·36 | + 0·70 | ········· | +61·58 | 2 18 56·64 |
| | ω Arietis | 47·0 | 0·8 | 14·5 | 28·3 | 42·0 | 23 14·52 | + 0·83 | ········· | +61·58 | 2 24 16·93 |
| | θ Persei | 46·1 | 6·1 | 26·1 | 46·1 | 6·3 | 32 26·14 | + 0·44 | ········· | +61·58 | 2 33 28·16 |
| | A.S.C. 413 | 36·7 | 51·1 | 5·5 | 20·1 | 34·7 | 37 5·62 | + 0·75 | ········· | +61·60 | 3 38 7·97 |
| | γ′ Eridani | 11·6 | 25·1 | 38·8 | 52·5 | 6·3 | 49 38·86 | + 1·06 | +61·51 | +61·60 | 3 50 41·52 |
| | Groombridge 784 | 3·2 | 56·8 | 51·0 | 45·0 | 38·2 | 59 50·84 | − 0·80 | ········· | +61·61 | 4 0 51·65 |
| | α Tauri | 23·8 | 37·6 | 51·3 | 5·2 | 19·0 | 25 51·38 | + 0·82 | +61·64 | +61·64 | 4 26 53·84 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | | observed. | interpolated. | | | |
| | | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Jan. 12 | A.S.C. 596 | 10·3 | 25·3 | 40·5 | 55·3 | 10·6 | 57 | 40·40 | + 0·71 | ……… | +61·64 | 4 | 58 | 42·75 |
| | 16 Orionis | 11·1 | 24·6 | 38·1 | 51·5 | 5·0 | 59 | 38·06 | + 0·86 | ……… | +61·64 | 5 | 0 | 40·56 |
| | A.S.C. 617 | 30·4 | 43·8 | 57·1 | 10·7 | 24·0 | 4 | 57·20 | + 1·01 | ……… | +61·65 | 5 | 5 | 59·86 |
| | λ Aurigæ | 28·1 | 45·2 | 2·5 | 19·9 | 37·2 | 7 | 2·58 | + 0·57 | ……… | +61·65 | 5 | 8 | 4·80 |
| | 21 Orionis | 29·9 | 43·2 | 56·5 | 9·8 | 23·0 | 9 | 56·48 | + 0·92 | ……… | +61·65 | 5 | 10 | 59·05 |
| | 111 Tauri | 44·5 | 58·4 | 12·2 | 26·1 | 40·1 | 14 | 12·26 | + 0·81 | ……… | +61·65 | 5 | 15 | 14·72 |
| | 113 Tauri | 30·1 | 44·1 | 58·0 | 11·9 | 25·7 | 15 | 57·96 | + 0·81 | ……… | +61·65 | 5 | 17 | 0.42 |
| | A.S.C. 656 | 35·0 | 49·0 | 3·0 | 16·8 | 30·6 | 18 | 2·88 | + 0·81 | ……… | +61·65 | 5 | 19 | 5·34 |
| | 31 Orionis | 15·7 | 29·0 | 42·3 | 55·6 | 8·9 | 20 | 42·30 | + 0·96 | ……… | +61·66 | 5 | 21 | 44·92 |
| | υ Orionis | 50·1 | 3·4 | 17·0 | 30·4 | 43·8 | 23 | 16·94 | + 0·99 | ……… | +61·66 | 5 | 24 | 19·59 |
| | λ Orionis | 59·1 | 12·6 | 26·0 | 39·6 | 52·9 | 25 | 26·04 | + 0·86 | ……… | +61·66 | 5 | 26 | 28·56 |
| | ε Orionis | 45·0 | 58·3 | 11·5 | 24·8 | 38·1 | 27 | 11·54 | + 0·96 | +61·67 | +61·67 | 5 | 28 | 14·17 |
| | ω Orionis | 23·8 | 37·1 | 50·3 | 3·7 | 17·0 | 29 | 50·38 | + 0·91 | ……… | +61·67 | 5 | 30 | 52·96 |
| | ξ Aurigæ | 51·5 | 14·9 | 38·5 | 2·1 | 25·8 | 40 | 38·56 | + 0·29 | ……… | +61·68 | 5 | 41 | 40·53 |
| Jan. 15 | Sun 2 Limb | 31·3 | 45·4 | 59·5 | …… | 28·4 | 47 | 59·73 | + 1·13 | ……… | +63·98 | 19 | 49 | 4·84 |
| | α Cygni | 19·5 | 38·3 | 56·8 | 15·5 | 34·3 | 34 | 56·88 | + 0·51 | ……… | +64·04 | 20 | 36 | 1·43 |
| | ε Pegasi | 53·7 | 7·1 | 20·4 | 33·7 | 47·2 | 35 | 20·42 | + 0·89 | +64·09 | +64·11 | 21 | 36 | 25·42 |
| | Moon 1 Limb | 36·8 | 50·2 | 4·0 | 17·6 | 31·1 | 31 | 3·94 | + 1·01 | ……… | +64·22 | 22 | 32 | 9·17 |
| | Mars 1 Limb | 1·1 | 14·4 | 27·8 | 41·8 | 55·1 | 35 | 28·04 | + 1·05 | ……… | +64·23 | 22 | 36 | 33·32 |
| | λ Aquarii | …… | 3·5 | 17·1 | 30·6 | 44·0 | 43 | 17·09 | + 1·03 | ……… | +64·23 | 22 | 44 | 22·35 |
| | α Pegasi | 21·3 | 35·0 | 48·5 | 2·3 | 16·1 | 55 | 48·64 | + 0·84 | +64·36 | +64·25 | 22 | 56 | 53·73 |
| | ι Piscium | 18·0 | 31·4 | 44·8 | 58·1 | 11·5 | 30 | 44·76 | + 0·92 | +64·23 | +64·28 | 23 | 31 | 49·96 |
| | 23 Piscium | 49·5 | 3·7 | 17·8 | 32·0 | 46·2 | 43 | 17·84 | + 0·79 | ……… | +64·29 | 23 | 44 | 22·92 |
| | Groombridge 29 | 26·2 | 21·7 | 16·9 | 12·0 | 7·2 | 6 | 16·80 | − 0·86 | ……… | +64·33 | 0 | 7 | 20·27 |
| | α Ursæ Minoris | 4·5 | 24·0 | 43·0 | 1·0 | …… | 1 | 43·10 | −16·06 | ……… | +64·41 | 1 | 2 | 31·45 |
| | Ceres | 35·6 | 49·0 | 2·2 | 15·5 | 28·7 | 18 | 2·20 | + 0·96 | ……… | +64·42 | 1 | 19 | 7·58 |
| | 70 Ceti | 39·0 | 52·2 | 5·5 | 18·8 | 32·0 | 13 | 5·50 | + 0·98 | ……… | +64·50 | 2 | 14 | 10·98 |
| | θ Persei | 42·9 | 2·8 | 22·9 | 43·0 | 3·2 | 32 | 22·96 | + 0·45 | ……… | +64·52 | 2 | 33 | 27·93 |
| | α Tauri | 20·8 | 34·7 | 48·2 | 2·2 | 16·0 | 25 | 48·38 | + 0·83 | +64·61 | +64·63 | 4 | 26 | 53·84 |
| | λ Eridani | 5·0 | 18·2 | 31·6 | 45·0 | 58·5 | 0 | 31.66 | + 1·04 | ……… | +64·66 | 5 | 1 | 37·36 |
| | λ Aurigæ | 25·0 | 42·2 | 59·5 | 16·9 | 34·1 | 6 | 59·54 | + 0·58 | ……… | +64·66 | 5 | 8 | 4·78 |
| | 21 Orionis | 27·0 | 40·2 | 53·6 | 6·8 | 20·0 | 9 | 53·52 | + 0·94 | ……… | +64·66 | 5 | 10 | 59·12 |
| | 111 Tauri | 41·5 | 55·5 | 9·3 | 23·2 | 37·2 | 14 | 9·34 | + 0·82 | ……… | +64·66 | 5 | 15 | 14·82 |
| | γ Orionis | 9·5 | 23·0 | 36·3 | 49·5 | 3·0 | 15 | 36·26 | + 0·91 | ……… | +64·67 | 5 | 16 | 41·84 |
| | A.S.C. 656 | 32·1 | 46·0 | 59·7 | 13·8 | 27·5 | 17 | 59·82 | + 0·83 | ……… | +64·67 | 5 | 19 | 5·32 |
| | 33 Orionis | 27·3 | 40·5 | 54·0 | 7·2 | 20·5 | 21 | 53·90 | + 0·94 | ……… | +64·67 | 5 | 22 | 59·51 |
| | A.S.C. 674 | 28·0 | 43·0 | 58·0 | 13·0 | 27·8 | 24 | 57·96 | + 0·72 | ……… | +64·67 | 5 | 26 | 3·35 |
| | ι Orionis | 12·1 | 25·4 | 38·8 | 52·1 | 5·5 | 26 | 38·78 | + 1·01 | ……… | +64·67 | 5 | 27 | 44·46 |
| | ω Orionis | 20·8 | 34·0 | 47·4 | 0·7 | 14·0 | 29 | 47·38 | + 0·93 | ……… | +64·67 | 5 | 30 | 52·98 |
| | 52 Orionis | 0·9 | 14·4 | 27·6 | 41·0 | 54·5 | 38 | 27·68 | + 0·91 | ……… | +64·68 | 5 | 39 | 33·27 |
| | ξ Aurigæ | 48·0 | 11·8 | 35·5 | 59·1 | 22·4 | 40 | 35·36 | + 0·29 | ……… | +64·68 | 5 | 41 | 40·33 |
| | 56 Orionis | 44·4 | 57·6 | 10·8 | 24·2 | 37·5 | 43 | 10·90 | + 0·94 | ……… | +64·68 | 5 | 44 | 16·52 |
| | π Aurigæ | 32·2 | 51·6 | 10·5 | 29·8 | 48·8 | 47 | 10·58 | + 0·49 | ……… | +64·69 | 5 | 48 | 15·76 |
| | 59 Orionis | 42·2 | 55·5 | 8·8 | 22·1 | 35·4 | 49 | 8·80 | + 0·94 | ……… | +64·69 | 5 | 50 | 14·43 |
| | 3 Monocerotis | 54·1 | 7·4 | 21·0 | 34·6 | 48·0 | 53 | 21·02 | + 1·06 | ……… | +64·69 | 5 | 54 | 26·77 |
| | 66 Orionis | 7·6 | 21·0 | 34·2 | 47·5 | 0·8 | 55 | 34·22 | + 0·93 | ……… | +64·69 | 5 | 56 | 39·84 |
| | θ Leporis | 29·4 | 43·0 | 56·8 | 10·6 | 24·4 | 57 | 56·84 | + 1·08 | ……… | +64·69 | 5 | 59 | 2·61 |
| | 1 Lyncis | 24·5 | 52·1 | 20·1 | 48·2 | 16·2 | 2 | 20·22 | + 0·13 | ……… | +64·70 | 6 | 3 | 25·05 |
| | δ Ursæ Minoris S.P. | 9·0 | …… | 36·0 | 19·0 | 2·0 | 21 | 35·46 | + 8·58 | ……… | +64·72 | 6 | 22 | 48·76 |
| Jan. 17 | Sun 2 Limb | 3·4 | 17·5 | 31·8 | 46·1 | 0·4 | 56 | 31·84 | + 1·04 | ……… | +66·19 | 19 | 57 | 39·07 |
| | α Cygni | 17·6 | 36·3 | 54·9 | 13·7 | 32·5 | 34 | 55·00 | + 0·49 | ……… | +66·24 | 20 | 36 | 1·73 |
| | ζ Pegasi | 1·0 | 14·5 | 28·0 | 41·5 | 55·0 | 32 | 28·00 | + 0·81 | +66·29 | +66·40 | 22 | 33 | 35·21 |
| | Mars 1 Limb | 46·4 | 59·9 | 13·5 | 27·0 | 40·4 | 41 | 13·44 | + 0·95 | ……… | +66·41 | 22 | 42 | 20·80 |
| | α Pegasi | 19·0 | 32·8 | 46·5 | 0·2 | 14·0 | 55 | 46·50 | + 0·78 | +66·55 | +66·44 | 22 | 56 | 53·72 |
| | ι Piscium | 16·0 | 29·4 | 42·6 | 56·0 | 9·2 | 30 | 42·64 | + 0·85 | +66·41 | +66·48 | 23 | 31 | 49·97 |
| | Moon 1 Limb | 36·7 | 50·1 | 3·8 | 17·4 | 31·0 | 59 | 3·80 | + 0·84 | ……… | +66·52 | 0 | 0 | 11·16 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 17 | Groombridge 29 | 24·0 | 19·4 | 14·4 | 9·6 | 4·8 | 6 14·44 | − 0·73 | ......... | +66·54 | 0 7 20·25 |
| | 41 Piscium | 54·8 | 8·2 | 21·6 | 34·9 | 48·4 | 11 21·58 | + 0·84 | ......... | +66·54 | 0 12 28·96 |
| | α Ursæ Minoris | 1·0 | 18·5 | 38·5 | 59·0 | 17·5 | 1 38·90 | − 14·25 | ......... | +66·63 | 1 2 31·28 |
| | Ceres | 6·2 | 19·5 | 32·8 | 46·1 | 59·4 | 19 32·80 | + 0·88 | ......... | +66·64 | 1 20 40·32 |
| | Vesta | 46·6 | 59·8 | 13·1 | 26·5 | 39·8 | 46 13·16 | + 0·86 | ......... | +66·66 | 1 47 20·68 |
| | 70 Ceti | 37·0 | 50·2 | 3·4 | 16·6 | 30·0 | 13 3·44 | + 0·91 | ......... | +66·69 | 2 14 11·04 |
| | Piazzi II. 255 | 29·5 | 29·0 | 28·7 | 28·8 | 28·2 | 59 28·84 | − 0·91 | ......... | +66·72 | 3 0 34·65 |
| | Groombridge 784 | 57·2 | 51·0 | 44·8 | 38·8 | 32·0 | 59 44·76 | − 0·71 | ......... | +66·72 | 4 0 50·77 |
| | α Tauri | 18·5 | 32·4 | 46·1 | 0·0 | 13·8 | 25 46·16 | + 0·77 | +66·88 | +66·76 | 4 26 53·69 |
| | λ Eridani | 2·7 | 16·0 | 29·5 | 43·0 | 56·3 | 0 29·50 | + 0·95 | ......... | +66·78 | 5 1 37·23 |
| | A.S.C. 617 | 25·2 | 38·5 | 52·0 | 5·5 | 18·8 | 4 52·00 | + 0·95 | ......... | +66·78 | 5 5 59·73 |
| | γ Orionis | 7·6 | 20·9 | 34·2 | 47·7 | 1·0 | 15 34·28 | + 0·84 | ......... | +66·79 | 5 16 41·91 |
| | A.S.C. 656 | 30·2 | 44·0 | 57·7 | 11·6 | 25·4 | 17 57·78 | + 0·77 | ......... | +66·79 | 5 19 5·34 |
| | 33 Orionis | 25·3 | 38·5 | 51·8 | 5·1 | 18·4 | 21 51·82 | + 0·87 | ......... | +66·80 | 5 22 59·49 |
| | A.S.C. 674 | 26·0 | 41·0 | 55·9 | 10·9 | 25·8 | 24 55·92 | + 0·67 | ......... | +66·80 | 5 26 3·39 |
| | ι Orionis | 10·0 | 23·3 | 36·7 | 50·0 | 3·3 | 26 36·66 | + 0·93 | ......... | +66·80 | 5 27 44·39 |
| | ω Orionis | 18·7 | 32·0 | 45·4 | 58·7 | 12·0 | 29 45·36 | + 0·86 | ......... | +66·81 | 5 30 53·03 |
| | 56 Orionis | 42·0 | 55·4 | 9·0 | 22·2 | 35·5 | 43 8·82 | + 0·87 | ......... | +66·82 | 5 14 16·51 |
| | 59 Orionis | 40·2 | 53·4 | 6·7 | 20·1 | 33·3 | 49 6·74 | + 0·87 | ......... | +66·83 | 5 50 14·44 |
| | 3 Monocerotis | 51·9 | 5·5 | 19·0 | 32·4 | 45·9 | 53 18·94 | + 0·97 | ......... | +66·84 | 5 54 26·75 |
| | τ Leporis | 15·6 | 29·5 | 43·8 | 58·0 | 12·0 | 59 43·78 | + 1·02 | ......... | +66·84 | 6 0 51·64 |
| | 1 Lyncis | 22·4 | 50·1 | 18·1 | 46·0 | 13·8 | 2 18·08 | + 0·14 | ......... | +66·84 | 6 3 25·06 |
| | δ Ursæ Minoris S.P. | 7·5 | 51·0 | 35·0 | 18·0 | 2·5 | 21 34·80 | + 7·67 | ......... | +66·86 | 6 22 49·33 |
| | 42 Camelopardi | 15·5 | 50·5 | 25·6 | 0·7 | 35·9 | 33 25·64 | − 0·12 | ......... | +66·87 | 6 34 32·39 |
| Jan. 18 | Mars 1 Limb | ...... | 51·9 | 5·2 | 18·7 | 32·1 | 44 5·24 | + 0·93 | ......... | +67·63 | 22 45 13·80 |
| | α Pegasi | 18·1 | 31·8 | 45·5 | 59·2 | 12·8 | 55 45·48 | + 0·77 | +67·57 | +67·63 | 22 56 53 88 |
| | Moon 1 Limb | 19·1 | 32·9 | 46·6 | 0·5 | 14·2 | 44 46·66 | + 0·78 | ......... | +67·69 | 0 45 55·13 |
| | α Ursæ Minoris | ...... | 17·0 | 37·0 | 58·0 | 15·0 | 1 37·19 | − 14·68 | ......... | +67·71 | 1 2 30·22 |
| | θ¹ Ceti | 33·1 | 46·5 | 0·0 | 13·4 | 26·7 | 14 59·94 | + 0·93 | +67·75 | +67·72 | 1 16 8·59 |
| | η Piscium | 27·1 | 40·9 | 54·6 | 8·4 | 22·1 | 21 54·62 | + 0·76 | ......... | +67·73 | 1 23 3·11 |
| | α Aquilæ | 28 0 | 41·4 | 54·8 | 8·3 | 21·7 | 41 54·84 | + 0·81 | +68·50 | +68·51 | 19 43 4·16 |
| Jan. 19 | α Cygni | 15·2 | 34·0 | 52·6 | 11·2 | 30·0 | 34 52·60 | + 0·38 | ......... | +68·56 | 20 36 1·54 |
| | α Andromedæ | 34·6 | 49·8 | 4·8 | 20·0 | 35·1 | 59 4·86 | + 0·54 | +68·79 | +68·77 | 0 0 14·17 |
| | γ Pegasi | 30·0 | 43·8 | 57·4 | 11·0 | 24·8 | 3 57·40 | + 0·64 | +68·76 | +68·77 | 0 5 6·81 |
| | α Ursæ Minoris | 55·0 | 15·0 | 32·5 | 55·0 | 11·0 | 1 33·70 | − 12·80 | ......... | +68·85 | 1 2 29·75 |
| | Moon 1 Limb | 44·3 | 58·4 | 12·6 | 26·6 | 40·8 | 33 12·54 | + 0·63 | ......... | +68·88 | 1 34 22·05 |
| | β Arietis | 18·9 | 33·0 | 47·1 | 1·2 | 15·3 | 44 47·10 | + 0·60 | ......... | +68·89 | 1 45 56·59 |
| | α Arietis | 39·8 | 54·1 | 8·4 | 22·7 | 37·0 | 57 8·40 | + 0·58 | +69·00 | +68·91 | 1 58 17·89 |
| | θ′ Arietis | 44·7 | 58·6 | 12·6 | 26·6 | 40·8 | 8 12·66 | + 0·61 | ......... | +68·92 | 2 9 22·19 |
| | α Aurigæ | 16·8 | 36·0 | 55·1 | 14·2 | 33·3 | 3 55·08 | + 0·36 | ......... | +69·09 | 5 5 4·53 |
| | λ Aurigæ | 20·6 | 38·0 | 55·5 | 13·0 | 30·4 | 6 55·50 | + 0·43 | ......... | +69·09 | 5 8 5·02 |
| | λ Orionis | 51·9 | 5·4 | 18·8 | 32·3 | 45·7 | 25 18·82 | + 0·67 | ......... | +69·11 | 5 26 28·60 |
| | π Aurigæ | 28·1 | 47·2 | 6·4 | 25·5 | 44·6 | 47 6·36 | + 0·36 | ......... | +69·13 | 5 48 15·85 |
| | Venus 2 Limb | 37·7 | 52·1 | 6·6 | 21·1 | 35·7 | 23 6·64 | + 0·88 | ......... | +69·68 | 19 24 17·20 |
| Jan. 20 | Sun 1 Limb | 26·8 | 41·0 | 55·1 | 9·1 | 23·2 | 6 55·04 | + 0·92 | ......... | +69·72 | 20 8 5·68 |
| | Sun 2 Limb | 45·7 | 0·0 | 14·1 | 28·4 | 42·5 | 9 14·14 | + 0·92 | ......... | +69·72 | 20 10 24·78 |
| | (a) α Pegasi | 16·0 | 29·6 | 43·3 | 57·0 | 10·7 | 56 43·32 | + 0·68 | + 9·81 | + 9·82 | 22 56 53·82 |
| | φ Pegasi | 49·5 | 3·4 | 17·3 | 31·3 | 45·2 | 44 17·34 | + 0·66 | ........ | + 9·87 | 23 44 27·87 |
| | α Andromedæ | 33·0 | 48·7 | 3·8 | 19·0 | 34·0 | 0 3·70 | + 0·58 | + 9·89 | + 9·88 | 0 0 14·16 |
| | α Ursæ Minoris | ...... | 13·0 | 32·0 | 52·0 | 11·0 | 2 32·44 | − 13·50 | ......... | + 9·92 | 1 2 28·86 |
| | β Arietis | 17·6 | 31·7 | 45·8 | 0·0 | 14·3 | 45 45·88 | + 0·64 | ......... | + 9·94 | 1 45 56·46 |
| | α Arietis | 38·6 | 53·0 | 7·2 | 21·7 | 36·0 | 58 7·30 | + 0·62 | +10·04 | + 9·95 | 1 58 17·87 |
| | θ¹ Arietis | 43·4 | 57·4 | 11·3 | 25·6 | 39·7 | 9 11·48 | + 0·65 | ......... | + 9·98 | 2 9 22·11 |
| | Groombridge 506 | 27·0 | 51·6 | 16·0 | 40·5 | 4·2 | 15 15·86 | − 1·60 | ......... | + 9·98 | 2 15 24·24 |
| | Moon 1 Limb | 2·2 | 16·6 | 31·1 | 45·7 | 0·1 | 26 31·14 | + 0·64 | ......... | + 9·99 | 2 26 41·77 |

(a) Clock put forward one minute.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 20 | γ Ceti | 31·1 | 44·5 | 57·8 | 11·1 | 24·4 | 34 57·78 | + 0·76 | +10·04 | + 9·99 | 2 35 8·53 |
| | ε Arietis | 33·8 | 48·0 | 2·2 | 16·5 | 30·7 | 50 2·24 | + 0·63 | ……… | +10·00 | 2 50 12·87 |
| | α Ceti | 25·6 | 39·1 | 52·4 | 5·7 | 19·0 | 53 52·36 | + 0·75 | + 9·95 | +10·00 | 2 54 3·11 |
| | δ Arietis | 59·1 | 13·1 | 27·1 | 41·2 | 55·4 | 2 27·18 | + 0·65 | ……… | +10·02 | 3 2 37·85 |
| | ϰ Leporis | 20·0 | 33·6 | 47·2 | 1·0 | 14·6 | 5 47·28 | + 0·87 | ……… | +10·10 | 5 5 58·25 |
| | 111 Tauri | 36·1 | 50·1 | 4·0 | 18·0 | 31·9 | 15 4·02 | + 0·67 | ……… | +10·11 | 5 15 14·80 |
| | γ Orionis | 4·1 | 17·5 | 30·8 | 44·1 | 57·5 | 16 30·80 | + 0·74 | ……… | +10·11 | 5 16 41·65 |
| | 33 Orionis | 21·8 | 35·2 | 48·5 | 2·0 | 15·2 | 22 48·54 | + 0·76 | ……… | +10·12 | 5 22 59·42 |
| | A.S.C. 694 | 3·6 | 17·0 | 30·4 | 43·7 | 57·0 | 31 30·34 | + 0·81 | ……… | +10·12 | 5 31 41·27 |
| | ϰ Orionis | 40·0 | 53·4 | 7·0 | 20·6 | 34·0 | 40 7·00 | + 0·85 | ……… | +10·13 | 5 40 17·98 |
| | η Leporis | 36·5 | 50·0 | 3·7 | 17·6 | 31·2 | 49 3·80 | + 0·87 | ……… | +10·13 | 5 49 14·80 |
| | 3 Monocerotis | 49·0 | 2·3 | 15·6 | 29·1 | 42·6 | 54 15·72 | + 0·86 | ……… | +10·13 | 5 54 26·71 |
| | τ Leporis | 12·5 | 26·5 | 40·5 | 54·7 | 8·7 | 0 40·58 | + 0·91 | ……… | +10·14 | 6 0 51·63 |
| | 5 Monocerotis | 33·5 | 47·0 | 0·2 | 13·6 | 27·0 | 7 0·26 | + 0·83 | ……… | +10·14 | 6 7 11·23 |
| | β Canis Majoris | 7·8 | 21·8 | 35·7 | 49·7 | 3·8 | 15 35·76 | + 0·90 | ……… | +10·14 | 6 15 46·80 |
| | δ Ursæ Minoris S.P. | …… | 48·5 | 32·0 | 15·5 | …… | 22 31·89 | + 7·17 | ……… | +10·15 | 6 22 49·21 |
| | $\nu^2$ Canis Majoris | 10·6 | 24·8 | 39·0 | 53·0 | 7·0 | 29 38·88 | + 0·91 | ……… | +10·15 | 6 29 49·94 |
| | 15 Monocerotis | 41·2 | 54·6 | 8·1 | 21·6 | 35·0 | 32 8·10 | + 0·71 | ……… | +10·16 | 6 32 18·97 |
| | A.S.C. 834 | 56·0 | 55·4 | 55·2 | 55·0 | 54·8 | 36 55·28 | − 0·92 | ……… | +10·16 | 6 37 4·52 |
| | $\pi^3$ Canis Majoris | 9·1 | 23·3 | 37·6 | 51·8 | 6·0 | 48 37·56 | + 0·91 | ……… | +10·17 | 6 48 48·64 |
| | γ Canis Majoris | 0·1 | 14·0 | 27·9 | 41·8 | 55·8 | 56 27·92 | + 0·88 | ……… | +10·17 | 6 56 38·97 |
| | Venus 2 Limb | 1·0 | 15·2 | 29·5 | 44·0 | 58·2 | 29 29·58 | + 0·94 | ……… | +10·67 | 19 29 41·19 |
| Jan. 21 | Sun 2 Limb | 58·3 | 12·5 | 27·0 | 41·3 | 55·5 | 14 26·92 | + 0·93 | ……… | +10·69 | 20 14 38·54 |
| | Mars 1 Limb | 12·6 | 25·8 | 39·1 | 52·7 | 6·0 | 53 39·24 | + 0·85 | ……… | +10·78 | 22 53 50·87 |
| | γ Cephei | 45·0 | 42·8 | 40·6 | 39·0 | 37·0 | 32 40·88 | − 0·82 | ……… | +10·81 | 23 32 50·87 |
| | φ Pegasi | 48·4 | 2·3 | 16·2 | 30·2 | 44·1 | 44 16·24 | + 0·67 | ……… | +10·82 | 23 44 27·73 |
| | α Andromedæ | 32·6 | 47·7 | 2·6 | 17·8 | 32·9 | 0 2·72 | + 0·59 | +10·85 | +10·83 | 0 0 14·14 |
| | Groombridge 29 | 19·3 | 14·6 | 9·8 | 5·2 | 0·2 | 7 9·82 | − 0·73 | ……… | +10·83 | 0 7 19·92 |
| | ε Arietis | 33·0 | 47·0 | 1·1 | 15·2 | 29·3 | 50 1·12 | + 0·64 | ……… | +10·97 | 2 50 12·73 |
| | α Ceti | 24·6 | 38·0 | 51·2 | 4·6 | 18·0 | 53 51·28 | + 0·77 | +11·00 | +10·98 | 2 54 3·03 |
| | δ Arietis | 58·1 | 12·0 | 26·0 | 40·1 | 54·1 | 2 26·06 | + 0·67 | ……… | +10·98 | 3 2 37·71 |
| | $\gamma^1$ Eridani | 2·0 | 15·6 | 29·3 | 43·1 | 56·8 | 50 29·36 | + 0·88 | +11·10 | +11·00 | 3 50 41·24 |
| | α Tauri | 14·3 | 28·1 | 42·0 | 56·0 | 9·6 | 26 42·00 | + 0·68 | +11·10 | +11·04 | 4 26 53·72 |
| | λ Eridani | 58·4 | 12·0 | 25·4 | 39·0 | 52·3 | 1 25·42 | + 0·86 | ……… | +11·07 | 5 1 37·35 |
| | ϰ Leporis | 19·1 | 32·7 | 46·3 | 0·0 | 13·7 | 5 46·36 | + 0·89 | ……… | +11·07 | 5 5 58·32 |
| | 29 Orionis | 43·7 | 57·0 | 10·5 | 23·8 | 37·1 | 16 10·42 | + 0·85 | ……… | +11·08 | 5 16 22·35 |
| | δ Orionis | 20·0 | 33·3 | 46·6 | 59·8 | 13·1 | 23 46·56 | + 0·79 | +11·06 | +11·08 | 5 23 58·43 |
| | A.S.C. 674 | 21·5 | 36·6 | 51·6 | 6·6 | 21·5 | 25 51·56 | + 0·59 | ……… | +11·09 | 5 26 3·24 |
| | ν Aurigæ | 49·5 | 6·5 | 23·7 | 40·8 | 58·0 | 40 23·70 | + 0·49 | ……… | +11·10 | 5 40 35·29 |
| | 59 Orionis | 36·0 | 49·3 | 2·6 | 16·0 | 29·2 | 50 2·62 | + 0·78 | ……… | +11·10 | 5 50 14·50 |
| | 40 Camelopardi | 28·7 | 55·0 | 21·5 | 48·2 | 15·0 | 1 21·68 | + 0·14 | ……… | +11·11 | 6 1 32·93 |
| | 5 Monocerotis | 32·1 | 45·6 | 59·1 | 12·6 | 26·1 | 6 59·10 | + 0·83 | ……… | +11·11 | 6 7 11·04 |
| | 46 Aurigæ | 54·7 | 15·0 | 35·3 | 55·8 | 16·1 | 12 35·38 | + 0·35 | ……… | +11·11 | 6 12 46·84 |
| | A.S.C. 793 | 22·9 | 36·2 | 49·5 | 2·8 | 16·1 | 14 49·50 | + 0·77 | ……… | +11·11 | 6 15 1·38 |
| | A.S.C. 874 | 4·0 | 48·5 | 33·0 | 18·5 | 2·0 | 57 33·20 | − 2·19 | ……… | +11·14 | 6 57 42·15 |
| Jan. 22 | Moon 1 Limb | 11·4 | 26·7 | 41·8 | 57·0 | 12·2 | 25 41·82 | + 0·62 | ……… | +12·08 | 4 25 54·52 |
| | α Tauri | …… | …… | 41·0 | 55·0 | 8·7 | 26 41·06 | + 0·70 | +12·01 | +12·08 | 4 26 53·84 |
| | ι Tauri | 0·5 | 14·7 | 29·0 | 43·3 | 57·6 | 53 29·02 | + 0·66 | ……… | +12·10 | 4 53 41·78 |
| | α Aurigæ | …… | …… | 52·0 | 11·1 | 30·1 | 4 52·00 | + 0·43 | ……… | +12·12 | 5 5 4·55 |
| | β Tauri | 38·1 | 53·1 | 8·1 | 23·3 | 38·4 | 16 8·20 | + 0·61 | +12·23 | +12·14 | 5 16 20·95 |
| | α Orionis | 0·0 | 13·3 | 26·6 | 40·0 | 53·6 | 46 26·70 | + 0·76 | +12·06 | +12·16 | 5 46 39·62 |
| Jan. 24 | α Aurigæ | 12·1 | 31·1 | 50·1 | 9·2 | 28·2 | 4 50·14 | + 0·46 | ……… | +13·83 | 5 5 4·43 |
| | β Orionis | 17·3 | 30·7 | 44·0 | 57·4 | 11·0 | 6 44·08 | + 0·89 | +13·93 | +13·83 | 5 6 58·80 |
| | 29 Orionis | 41·0 | 54·3 | 7·8 | 21·1 | 34·4 | 16 7·72 | + 0·89 | ……… | +13·83 | 5 16 22.44 |
| | δ Orionis | 17·2 | 30·5 | 43·8 | 57·0 | 10·3 | 23 43·76 | + 0·84 | +13·79 | +13·84 | 5 23 58·44 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 24 | ι Orionis | 3·2 | 16·4 | 29·7 | 43·1 | 56·5 | 27 29·78 | + 0·88 | ......... | +13·84 | 5 27 44·50 |
|  | ν Aurigæ | 46·9 | 4·1 | 21·0 | 38·0 | 55·2 | 40 21·04 | + 0·53 | ......... | +13·84 | 5 40 35·41 |
|  | 1 Geminorum | 50·2 | 4·5 | 18·8 | 33·8 | 48·0 | 54 19·06 | + 0·68 | ......... | +13·85 | 5 54 33·59 |
|  | A.S.C. 761 | 2·0 | 39·4 | 17·6 | 55·6 | 33·0 | 1 17·52 | − 0·15 | ......... | +13·85 | 6 1 31·22 |
|  | 73 Orionis | 13·3 | 26·8 | 40·3 | 54·0 | 7·6 | 6 40·40 | + 0·75 | ......... | +13·85 | 6 6 55·00 |
|  | μ Geminorum | 43·4 | ...... | 12·3 | 26·5 | 41·0 | 13 12·20 | + 0·67 | +13·82 | +13·85 | 6 13 26·72 |
|  | 8 Monocerotis | 45·0 | 58·2 | 11·5 | 24·8 | 38·1 | 15 11·52 | + 0·80 | ......... | +13·85 | 6 15 26·17 |
|  | δ Ursæ Minoris S.P. | ...... | 45·0 | 29·5 | 12·5 | 56·0 | 22 28·89 | + 7·06 | ......... | +13·86 | 6 22 49·81 |
|  | 12 Monocerotis | 17·2 | 30·6 | 44·0 | 57·3 | 10·6 | 23 43·94 | + 0·80 | ......... | +13·86 | 6 23 58·60 |
|  | 15 Monocerotis | 37·5 | 51·0 | 4·4 | 18·0 | 31·4 | 32 4·46 | + 0·77 | ......... | +13·86 | 6 32 19·09 |
|  | Moon 1 Limb | 7·4 | 22·6 | 37·5 | 52·8 | 7·8 | 39 37·62 | + 0·66 | ......... | +13·87 | 6 39 52·15 |
|  | δ Ursæ Minoris | 14·0 | 57·0 | 41·0 | 25·0 | 7·5 | 22 40·90 | − 5·40 | ......... | +14·28 | 18 22 49·78 |
|  | α Lyræ | 45·7 | 2·8 | 19·8 | 36·8 | 53·8 | 31 19·78 | + 0·54 | +14·25 | +14·28 | 18 31 34·60 |
|  | α Aquilæ | 22·4 | 35·8 | 49·2 | 2·5 | 16·0 | 42 49·18 | + 0·78 | +14·27 | +14·33 | 19 43 4·29 |
|  | Venus 2 Limb | 26·1 | ...... | 54·8 | ...... | 23·4 | 50 54·77 | + 0·98 | ......... | +14·33 | 19 51 10·08 |
| Jan. 25 | Sun 1 Limb | 23·8 | ...... | 52·0 | 6·0 | 20·1 | 28 51·94 | + 0·97 | ......... | +14·36 | 20 29 7·27 |
|  | Sun 2 Limb | 41·8 | 56·0 | 10·0 | 24·0 | 38·1 | 31 9·98 | + 0·97 | ......... | +14·36 | 20 31 25·31 |
|  | α Cygni | 9·5 | 28·1 | 46·7 | 5·5 | 24·1 | 35 46·78 | + 0·44 | ......... | +14·36 | 20 36 1·58 |
|  | α Pegasi | 11·1 | 24·8 | 38·6 | 52·3 | 6·1 | 56 38·58 | + 0·74 | +14·46 | +14·48 | 22 56 53·80 |
|  | Mars 1 Limb | 34·1 | 47·5 | 0·8 | 14·2 | 27·7 | 5 0·86 | + 0·87 | ......... | +14·48 | 23 5 16·21 |
|  | γ Cephei | 41·3 | 39·1 | 36·9 | 35·0 | 33·0 | 32 37·06 | − 0·84 | ......... | +14·50 | 23 32 50·72 |
|  | φ Pegasi | 44·6 | 58·5 | 12·5 | 26·5 | 40·6 | 44 12·54 | + 0·71 | ......... | +14·51 | 23 44 27·76 |
|  | α Ursæ Minoris | 45·5 | 5·0 | 24·0 | 45·0 | 4·5 | 2 24·80 | −13·88 | ......... | +14·56 | 1 2 25·48 |
|  | Groombridge 404 | 59·2 | 58·8 | 58·5 | 58·2 | 58·0 | 46 58·54 | − 0·90 | ......... | +14 61 | 1 47 12·25 |
|  | Vesta | 39·0 | 52·2 | 5·7 | 19·0 | 32·3 | 54 5·64 | + 0·80 | ......... | +14·62 | 1 54 21·06 |
|  | Groombridge 506 | 22·5 | 46·5 | 11·0 | 35·5 | 59·5 | 15 11·00 | − 1·62 | ......... | +14·62 | 2 15 24·00 |
|  | Piazzi II. 255 | 21·0 | 20·3 | 20·2 | 20·5 | 20·0 | 0 20·40 | − 0·91 | ......... | +14·65 | 3 0 34·14 |
|  | β Orionis | 16·4 | 30·0 | 43·3 | 56·6 | 10·1 | 6 43·28 | + 0·89 | +14·72 | +14·72 | 5 6 58·89 |
|  | 27 Orionis | 47·1 | 0·4 | 13·7 | 26·9 | 40·1 | 16 13·64 | + 0·84 | ......... | +14·73 | 5 16 29·21 |
|  | δ Orionis | 16·2 | 29·5 | 42·8 | 56·1 | 9·3 | 23 42·78 | + 0·84 | +14·76 | +14·74 | 5 23 58·36 |
|  | θ² Orionis | 57·2 | 10·5 | 24·0 | 37·2 | 50·6 | 27 23·90 | + 0·88 | ......... | +14·74 | 5 27 39·52 |
|  | A.S.C. 694 | 59·0 | 12·2 | 25·5 | 39·0 | 52·2 | 31 25·58 | + 0·86 | ......... | +14·75 | 5 31 41·19 |
|  | κ Orionis | 35·0 | 48·8 | 2·1 | 15·6 | 29·2 | 40 2·14 | + 0·90 | ......... | +14·75 | 5 40 17·79 |
|  | η Leporis | 31·5 | 45·2 | 58·9 | 12·8 | 26·4 | 48 58·96 | + 0·93 | ......... | +14·76 | 5 49 14·65 |
|  | ϱ Leporis | 15·0 | 28·9 | 42·5 | 56·6 | 10·3 | 57 42·66 | + 0·94 | ......... | +14·76 | 5 57 58·36 |
|  | 4 Monocerotis | 20·8 | 34·4 | 47·8 | 1·4 | 15·0 | 0 47·88 | + 0·91 | ......... | +14·76 | 6 1 3·55 |
|  | 73 Orionis | 12·2 | 26·0 | 39·4 | 53·0 | 6·5 | 6 39·42 | + 0·74 | ......... | +14·77 | 6 6 54·93 |
|  | 46 Aurigæ | 51·1 | 11·5 | 31·8 | 52·2 | 12·6 | 12 31·84 | + 0·37 | ......... | +14·77 | 6 12 46·98 |
|  | β Canis Majoris | 3·2 | 17·1 | 31·2 | 45·1 | 59·1 | 15 31·14 | + 0·96 | ......... | +14·77 | 6 15 46·87 |
|  | 10 Monocerotis | 29·5 | 42·7 | 56·1 | 9·3 | 22·7 | 19 56·06 | + 0·87 | ......... | +14·78 | 6 20 11·71 |
|  | δ Ursæ Minoris S.P. | ...... | 44·5 | 28·5 | 12·0 | ...... | 22 28·22 | + 7·43 | ......... | +14·78 | 6 22 50·43 |
|  | 12 Monocerotis | 16·5 | 29·6 | 42·8 | 56·2 | 9·5 | 23 42·92 | + 0·80 | ......... | +14·78 | 6 23 58·50 |
|  | ψ² Canis Majoris | 58·0 | 11·4 | 25·2 | 39·0 | 52·6 | 39 25·24 | + 0·93 | ......... | +14·79 | 6 39 40·96 |
|  | π³ Canis Majoris | 4·7 | 18·8 | 32·9 | 47·0 | 1·1 | 48 32·90 | + 0·98 | ......... | +14·79 | 6 48 48·67 |
|  | δ Geminorum | 59·6 | 13·9 | 28·2 | 42·6 | 57·0 | 10 28·26 | + 0·68 | +14·79 | +14·80 | 7 10 43·74 |
|  | κ Geminorum | 12·2 | 26·9 | 41·5 | 56·0 | 10·6 | 34 41·44 | + 0·65 | ......... | +14·82 | 7 34 56·91 |
|  | Moon 1 Limb | 0·3 | 15·1 | 30·0 | 44·8 | 59·4 | 46 29·92 | + 0·67 | ......... | +14·83 | 7 46 45·42 |
|  | δ Cancri | 1·0 | 15·0 | 29·0 | 43·1 | 57·1 | 35 29·04 | + 0·70 | ......... | +14·86 | 8 35 44·60 |
| Jan. 26 | ε Hydræ | 43·6 | 57·0 | 10·4 | 23·8 | 37·1 | 38 10·38 | + 0·78 | +15·73 | +15·68 | 8 38 26·84 |
|  | Moon 2 Limb | 20·7 | 35·0 | 49·2 | 3·5 | 17·7 | 52 49·22 | + 0·71 | ......... | +15·69 | 8 53 5·62 |
|  | α Hydræ | 8·6 | 22·0 | 35·3 | 48·6 | 2·0 | 19 35·30 | + 0·88 | +15·55 | +15·70 | 9 19 51·88 |
|  | ο Leonis | 2·0 | ...... | 29·0 | 42·5 | 56·0 | 32 29·00 | + 0·75 | ......... | +15·71 | 9 32 45·46 |
|  | ε Leonis | 9·5 | 24·0 | 38·7 | 53·2 | 8·0 | 36 38·68 | + 0·65 | +15·81 | +15·72 | 9 36 55·05 |
|  | β Lyræ | 26·0 | 41·8 | 57·6 | 13·5 | 29·3 | 43 57·64 | + 0·58 | +16·01 | +16·05 | 18 44 14·27 |
|  | Venus 2 Limb | 3·5 | 17·8 | 32·1 | 46·4 | 0·7 | 1 32·10 | + 0·97 | ......... | +16·10 | 20 1 49·17 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 27 | Sun 1 Limb | 40·8 | 55·0 | 9·1 | 23·1 | 37·1 | 37 9·02 | + 0·94 | ········· | +16·11 | 20 37 26·07 |
| | Sun 2 Limb | 58·4 | 12·5 | 26·5 | 40·5 | 54·6 | 39 26·50 | + 0·94 | ········· | +16·11 | 20 39 43·55 |
| | Mercury 1 Limb | 31·0 | 44·8 | 59·0 | 13·1 | 27·0 | 8 58·98 | + 0·94 | ········· | +16·13 | 21 9 16·05 |
| | ε Pegasi | 41·7 | 55·0 | 8·5 | 22·0 | 35·4 | 36 8·52 | + 0·75 | +16·16 | +16·15 | 21 36 25·42 |
| | α Pegasi | 9·4 | 23·0 | 36·8 | 50·6 | 4·3 | 56 36·82 | + 0·71 | +16·25 | +16·23 | 22 56 53·76 |
| | Mars 1 Limb | 13·1 | 26·4 | 39·8 | 53·1 | 6·5 | 10 39·78 | + 0·85 | ········· | +16·24 | 23 10 56·87 |
| | γ Cephei | 39·2 | 37·0 | 34·8 | 33·3 | 31·0 | 32 35·06 | − 0·85 | ········· | +16·26 | 23 32 50·47 |
| | α Ursæ Minoris | 41·0 | 1·0 | 19·5 | 40·0 | 58·0 | 2 19·90 | −13·78 | ········· | +16·36 | 1 2 22·48 |
| | Groombridge 404 | 57·3 | 56·8 | 56·2 | 56·2 | 55·8 | 46 56·46 | − 0·91 | ········· | +16·40 | 1 47 11·95 |
| | Groombridge 506 | 19·5 | 44·0 | 8·0 | 33·2 | 57·0 | 15 8·34 | − 1·62 | ········· | +16·42 | 2 15 23·14 |
| | Piazzi II. 255 | 18·5 | 18·2 | 18·0 | 18·2 | 17·2 | 0 18·02 | − 0·91 | ········· | +16·47 | 3 0 33·58 |
| | Groombridge 931 | 4·6 | 9·6 | 15·0 | 20·3 | 25·4 | 1 14·98 | − 1·07 | ········· | +16·56 | 5 1 30·47 |
| | ϰ Leporis | 13·6 | 27·0 | 40·8 | 54·5 | 8·0 | 5 40·78 | + 0·90 | ········· | +16·56 | 5 5 58·24 |
| | ψ¹ Orionis | 51·0 | 4·4 | 17·6 | 31·0 | 44·2 | 16 17·64 | + 0·80 | ········· | +16·56 | 5 16 35·00 |
| | δ Orionis | 14·4 | 27·6 | 41·0 | 54·3 | 7·6 | 23 40·98 | + 0·81 | +16·57 | +16·57 | 5 23 58·36 |
| | θ² Orionis | 55·5 | 9·0 | 22·2 | 35·6 | 49·0 | 27 22·26 | + 0·85 | ········· | +16·57 | 5 27 39·68 |
| | A.S.C. 694 | 57·2 | 10·5 | 23·7 | 37·0 | 50·4 | 31 23·76 | + 0·84 | ········· | +16·58 | 5 31 41·18 |
| | ϰ Orionis | 33·8 | 47·1 | 0·6 | 14·0 | 27·5 | 40 0·60 | + 0·97 | ········· | +16·58 | 5 40 18·15 |
| | α Orionis | 55·3 | 8·8 | 22·1 | 35·6 | 49·0 | 46 22·16 | + 0·77 | +16·57 | +16·59 | 5 46 39·52 |
| | η Leporis | 30·0 | 43·7 | 57·2 | 11·0 | 24·8 | 48 57·34 | + 0·91 | ········· | +16·59 | 5 49 14·84 |
| | ϱ Leporis | 13·0 | 27·1 | 40·8 | 54·8 | 8·8 | 57 40·90 | + 0·92 | ········· | +16·60 | 5 57 58·42 |
| | 1 Lyncis | 12·5 | 40·1 | 8·3 | 35·6 | 4·0 | 3 8·10 | + 0·09 | ········· | +16·60 | 6 3 24·79 |
| | 73 Orionis | 10·4 | 24·0 | 37·6 | 51·2 | 4·8 | 6 37·60 | + 0·72 | ········· | +16·60 | 6 6 54·92 |
| | μ Geminorum | 40·6 | 55·0 | 9·5 | 23·8 | 38·1 | 13 9·40 | + 0·65 | +16·63 | +16·60 | 6 13 26·65 |
| | β Canis Majoris | 1·4 | 15·3 | 29·2 | 43·2 | 57·1 | 15 29·24 | + 0·94 | ········· | +16·60 | 6 15 46·78 |
| | 10 Monocerotis | 27·6 | 41·0 | 54·2 | 7·6 | 21·0 | 19 54·28 | + 0·84 | ········· | +16·61 | 6 20 11·73 |
| | δ Ursæ Minoris S.P. | ······ | 43·0 | 26·5 | 9·5 | ······ | 22 26·22 | + 7·35 | ········· | +16·61 | 6 22 50·18 |
| | 13 Monocerotis | 40·0 | 53·3 | 6·7 | 20·2 | 33·5 | 24 6·74 | + 0·76 | ········· | +16·61 | 6 24 24·11 |
| | 15 Monocerotis | 34·6 | 48·1 | 1·6 | 15·1 | 28·7 | 32 1·62 | + 0·74 | ········· | +16·62 | 6 32 18·98 |
| | A.S.C. 874 | 58·5 | 43·0 | 27·5 | 12·0 | 56·5 | 57 27·50 | − 2·26 | ········· | +16·63 | 6 57 41·87 |
| | Piazzi VI. 334 | 38·5 | 5·5 | 31·8 | 59·0 | 26·4 | 5 32·24 | − 1·70 | ········· | +16·63 | 7 5 47·17 |
| | ξ Leonis | 43·4 | 57·0 | 10·7 | 24·2 | 37·7 | 23 10·60 | + 0·73 | ········· | +16·74 | 9 23 28·07 |
| | ο Leonis | 0·8 | 14·2 | 27·8 | 41·3 | 55·0 | 32 27·82 | + 0·73 | ········· | +16·75 | 9 32 45·30 |
| | Moon 2 Limb | 29·8 | 43·7 | 57·6 | 11·4 | 25·3 | 52 57·56 | + 0·73 | ········· | +16·77 | 9 53 15·06 |
| | Venus 2 Limb | 21·2 | 35·6 | 49·8 | 4·2 | 18·4 | 6 49·84 | + 0·96 | ········· | +17·19 | 20 7 7·99 |
| Jan. 28 | Sun 1 Limb | 48·2 | 2·3 | 16·4 | 30·6 | 44·7 | 41 16·44 | + 0·94 | ········· | +17·21 | 20 41 34·59 |
| | Sun 2 Limb | 5·6 | 19·6 | 33·7 | 47·7 | 1·7 | 43 33·66 | + 0·94 | ········· | +17·21 | 20 43 51·81 |
| | α Pegasi | 8·4 | 22·1 | 35·8 | 49·6 | 3·3 | 56 35·84 | + 0·71 | +17·22 | +17·28 | 22 56 53·83 |
| | Mars 1 Limb | 2·1 | 15·4 | 28·8 | 42·2 | 55·5 | 13 28·80 | + 0·85 | ········· | +17·29 | 23 13 46·94 |
| | γ Cephei | 38·3 | 36·0 | 34·0 | 32·2 | 30·0 | 32 34·10 | − 0·85 | ········· | +17·31 | 23 32 50·56 |
| | α Ursæ Minoris | 40·5 | 0·0 | 19·0 | 39·0 | 57·5 | 2 19·20 | −13·78 | ········· | +17·40 | 1 2 22·82 |
| | Groombridge 404 | 56·0 | 55·8 | 55·6 | 55·5 | 55·2 | 46 55·62 | − 0·91 | ········· | +17·44 | 1 47 12·15 |
| | Vesta | 29·0 | 42·4 | 55·7 | 9·1 | 22·4 | 56 55·72 | + 0·76 | ········· | +17·45 | 1 57 13·93 |
| | Groombridge 506 | 18·0 | 42·6 | 7·2 | 31·6 | 56·2 | 15 7·12 | − 1·62 | ········· | +17·48 | 2 15 22·98 |
| | α Tauri | 7·7 | 21·6 | 35·4 | 49·3 | 3·0 | 26 35·40 | + 0·70 | +17·61 | +17·58 | 4 26 53·68 |
| | α Aurigæ | 8·4 | 27·3 | 46·5 | 5·7 | 14·6 | 4 46·50 | + 0·41 | ········· | +17·61 | 5 5 4·52 |
| | φ Aurigæ | 23·3 | 39·4 | 55·4 | 11·5 | 27·5 | 16 55·42 | + 0·55 | ········· | +17·61 | 5 17 13·58 |
| | 134 Tauri | 57·5 | 11·0 | 24·6 | 38·1 | 51·7 | 40 24·58 | + 0·72 | ········· | +17·64 | 5 40 42·94 |
| | α Orionis | 54·4 | 7·6 | 21·1 | 34·5 | 48·0 | 46 21·12 | + 0·76 | +17·62 | +17·65 | 5 46 39·53 |
| | π Aurigæ | 19·7 | 38·7 | 57·8 | 16·8 | 36·0 | 47 57·80 | + 0·40 | ········· | +17·65 | 5 48 15·85 |
| | θ Leporis | 16·3 | 30·1 | 44·0 | 58·0 | 11·6 | 58 44·00 | + 0·91 | ········· | +17·66 | 5 59 2·57 |
| | 74 Orionis | 51·3 | 4·8 | 18·4 | 32·0 | 45·7 | 7 18·44 | + 0·73 | ········· | +17·67 | 6 7 36·84 |
| | 8 Monocerotis | 41·0 | 54·4 | 7·7 | 21·1 | 34·3 | 15 7·70 | + 0·77 | ········· | +17·67 | 6 15 26·14 |
| | δ Geminorum | 56·6 | 11·1 | 25·3 | 39·7 | 54·1 | 10 25·36 | + 0·65 | +17·72 | +17·72 | 7 10 43·73 |
| | Venus 2 Limb | 37·5 | 51·7 | 5·8 | 20·2 | 34·5 | 12 5·94 | + 0·95 | ········· | +18·15 | 20 12 25·04 |
| Jan. 29 | Sun 1 Limb | ······ | 8·6 | 22·7 | 36·8 | 50·8 | 45 22·73 | + 0·97 | ········· | +18·17 | 20 45 41·87 |
| | Sun 2 Limb | 11·5 | 25·7 | 39·8 | 53·8 | 7·8 | 47 39·72 | + 0·97 | ········· | +18·17 | 20 47 58·86 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Jan. 29 | Mercury 1 Limb | 28·5 | 42·4 | 56·1 | 10·2 | 24·1 | 22 56·26 | + 0·97 | ......... | +18·19 | 21 23 15·42 |
| | α Pegasi | 7·4 | 21·0 | 34·7 | 48·5 | 2·3 | 56 34·78 | + 0·73 | +18·26 | +18·22 | 22 56 53·73 |
| | Mars 1 Limb | 50·7 | 4·0 | 17·3 | 30·8 | 44·1 | 16 17·38 | + 0·87 | ......... | +18·25 | 23 16 36·50 |
| | α Andromedæ | 25·0 | 40·2 | 55·2 | 10·3 | 25·4 | 59 55·22 | + 0·62 | +18·24 | +18·28 | 0 0 14·12 |
| | α Ursæ Minoris | ...... | 59·0 | 16·0 | 37·0 | 54·0 | 2 17·61 | −14·39 | ......... | +18·32 | 1 2 21·54 |
| | Ceres | 20·7 | 34·0 | 47·2 | 0·6 | 13·8 | 30 47·26 | + 0·81 | ......... | +18·34 | 1 31 6·41 |
| | Vesta | 27·2 | 40·4 | 54·0 | 7·4 | 20·7 | 57 53·94 | + 0·79 | ......... | +18·36 | 1 58 13·09 |
| | Groombridge 506 | 16·5 | 41·0 | 5·8 | 30·2 | 54·3 | 15 5·56 | − 1·70 | ......... | +18·37 | 2 15 22·23 |
| | Groombridge 931 | 1·7 | 7·0 | 12·5 | 18·2 | 23·0 | 1 12·48 | − 1·13 | ......... | +18·54 | 5 1 29·89 |
| | β Orionis | 12·6 | 26·0 | 39·3 | 52·8 | 6·1 | 6 39·36 | + 0·90 | +18·60 | +18·54 | 5 6 58·80 |
| | $\psi^1$ Orionis | 49·1 | 2·4 | 15·6 | 29·0 | 42·2 | 16 15·66 | + 0·83 | ......... | +18·54 | 5 16 35·03 |
| | δ Orionis | 12·3 | 25·6 | 39·0 | 52·2 | 5·5 | 23 38·92 | + 0·83 | +18·60 | +18·55 | 5 23 58·30 |
| | $\theta^2$ Orionis | 53·5 | 6·8 | 20·2 | 33·5 | 46·8 | 27 20·16 | + 0·83 | ......... | +18·55 | 5 27 39·54 |
| | 134 Tauri | 56·3 | 9·8 | 23·3 | 37·0 | 50·7 | 40 23·42 | + 0·74 | ......... | +18·56 | 5 40 42·72 |
| | α Orionis | 53·2 | 6·7 | 20·1 | 33·5 | 46·8 | 46 20·06 | + 0·80 | +18·63 | +18·57 | 5 46 39·43 |
| | 60 Orionis | 58·6 | 11·8 | 25 0 | 38·4 | 51·6 | 50 25·08 | + 0·82 | ......... | +18·58 | 5 50 44·48 |
| | ϱ Leporis | 11·2 | 24·9 | 38·9 | 52·6 | 6·5 | 57 38·82 | + 0·95 | ......... | +18·59 | 5 57 58·36 |
| | 4 Monocerotis | 16·8 | 30·5 | 44·1 | 57·6 | 11·1 | 0 44·02 | + 0·91 | ......... | +18·60 | 6 1 3·53 |
| | 74 Orionis | 50·4 | 3·8 | 17·3 | 31·0 | 44·5 | 7 17·40 | + 0·75 | ......... | +18·61 | 6 7 36·76 |
| | 10 Monocerotis | 25·6 | 39·0 | 52·2 | 5·7 | 19·0 | 19 52·30 | + 0·87 | ......... | +18·62 | 6 20 11·79 |
| | δ Ursæ Minoris S.P. | ...... | 40·5 | 24·5 | 8·5 | ...... | 22 24·39 | + 7·66 | ......... | +18·62 | 6 22 50·67 |
| | A.S.C. 816 | 13·1 | 27·1 | 41·0 | 55·0 | 9·1 | 24 41·06 | + 0·97 | ......... | +18·63 | 6 25 0·66 |
| | $\nu^2$ Canis Majoris | 2·1 | 16·1 | 30·2 | 44·2 | 58·2 | 29 30·16 | + 0·98 | ......... | +18·63 | 6 29 49·77 |
| | $\psi^2$ Canis Majoris | 54·0 | 7·8 | 21·6 | 35·2 | 48·8 | 39 21·48 | + 0·94 | ......... | +18·64 | 6 39 41·06 |
| | $\pi^3$ Canis Majoris | 0·7 | 15·0 | 29·0 | 43·1 | 57·2 | 48 29·00 | + 0·98 | ......... | +18·65 | 6 48 48·63 |
| | A.S.C. 874 | 56·0 | 41·0 | 25·0 | 10·0 | 54·5 | 57 25·30 | − 2·36 | ......... | +18·67 | 6 57 41·61 |
| | Piazzi VI. 334 | 36·5 | 3·2 | 31·0 | 57·5 | 24·0 | 5 30·44 | − 1·79 | ......... | +18·68 | 7 5 47·33 |
| | 65 Aurigæ | 39·3 | 56·0 | 12·7 | 29·4 | 46·0 | 11 12·68 | + 0·53 | ......... | +18·68 | 7 11 31·89 |
| Jan. 31 | α Aurigæ | 5·2 | 24·3 | 43·5 | 2·6 | 21·7 | 4 43·46 | + 0·38 | ......... | +20·46 | 5 5 4·30 |
| | β Orionis | 10·6 | 24·0 | 37·4 | 51·0 | 4·3 | 6 37·46 | + 0·85 | +20·53 | +20·46 | 5 6 58·77 |
| | α Orionis | 51·6 | 4·8 | 18·2 | 31·7 | 45·0 | 46 18·26 | + 0·74 | +20·48 | +20·51 | 5 46 39·51 |
| | 60 Orionis | 56·6 | 10·0 | 23·2 | 36·5 | 49·8 | 50 23·22 | + 0·78 | ......... | +20·52 | 5 50 44·52 |
| | 74 Orionis | 48·0 | 1·8 | 15·5 | 29·6 | 42·7 | 7 15·52 | + 0·70 | ......... | +20·53 | 6 7 36·75 |
| | μ Geminorum | 36·8 | 51·1 | 5·5 | 19·8 | 34·2 | 13 5·48 | + 0·62 | +20·57 | +20·54 | 6 13 26·64 |
| | 8 Monocerotis | 38·2 | 51·5 | 4·8 | 18·1 | 31·5 | 15 4·82 | + 0·76 | ......... | +20·54 | 6 15 26·12 |
| | δ Ursæ Minoris S.P. | ...... | 39·5 | 24·0 | 6·5 | ...... | 22 23·22 | + 7·52 | ......... | +20·55 | 6 22 51·29 |
| | 13 Monocerotis | 36·0 | 49·4 | 2·8 | 16·1 | 29·6 | 24 2·78 | + 0·73 | ......... | +20·56 | 6 24 24·07 |
| | $\nu^3$ Canis Majoris | 9·5 | 23·3 | 37·1 | 51·1 | 5·0 | 30 37·20 | + 0·92 | ......... | +20·56 | 6 30 58·68 |
| | 42 Camelopardi | 1·6 | 36·8 | 12·0 | 47·1 | 22·1 | 34 11·92 | − 0·20 | ......... | +20·57 | 6 34 32·29 |
| | 17 Monocerotis | 59·3 | 12·8 | 26·1 | 39·7 | 53·1 | 38 26·20 | + 0·73 | ......... | +20·57 | 6 38 47·50 |
| | ι Canis Majoris | 18·8 | 32·2 | 46·1 | 0·1 | 14·0 | 48 46·24 | + 0·91 | ......... | +20·58 | 6 49 7·73 |
| | Piazzi VI. 334 | 34·0 | 1·5 | 28·8 | 56·0 | 22·0 | 5 28·46 | − 1·80 | ......... | +20·60 | 7 5 47·26 |
| | δ Geminorum | 53·8 | 8·1 | 22·5 | 36·8 | 51·1 | 10 22·46 | + 0·63 | +20·65 | +20·61 | 7 10 43·70 |
| | $\delta^2$ Canis Minoris | 9·1 | 22·5 | 35·8 | 49·0 | 2·4 | 24 35·76 | + 0·77 | ......... | +20·62 | 7 24 57·15 |
| Feb. 1 | Sun 1 Limb | ...... | 23·6 | 37·4 | 51·4 | 5·4 | 57 37·50 | + 0·82 | ......... | +21·26 | 20 57 59·58 |
| | Groombridge 931 | 59·0 | 4·2 | 9·0 | 14·5 | 19·5 | 1 9·24 | − 0·98 | ......... | +21·62 | 5 1 29·88 |
| | α Aurigæ | 4·2 | 23·2 | 42·3 | 1·5 | 20·5 | 4 42·34 | + 0·36 | ......... | +21·62 | 5 5 4·32 |
| | β Orionis | 9·7 | 23·0 | 36·4 | 49·9 | 3·3 | 6 36·46 | + 0·77 | +21·60 | +21·62 | 5 6 58·85 |
| | δ Orionis | 9·5 | 22·7 | 36·0 | 49·3 | 2·5 | 23 36·00 | + 0·72 | +21·60 | +21·63 | 5 23 58·35 |
| | 42 Orionis | 48·6 | 2·0 | 15·3 | 28·7 | 42·0 | 27 15·32 | + 0·74 | ......... | +21·63 | 5 27 37·69 |
| | 134 Tauri | 53·2 | 7·0 | 20·5 | 34·2 | 47·8 | 40 20·54 | + 0·63 | ......... | +21·64 | 5 40 42·81 |
| | 40 Camelopardi | 18·1 | 44·7 | 11·0 | 37·8 | 4·5 | 1 11·22 | + 0·11 | ......... | +21·66 | 6 1 32·99 |
| | μ Geminorum | 35·5 | 50·0 | 4·3 | 18·7 | 33·1 | 13 4·32 | + 0·57 | +21·77 | +21·66 | 6 13 26·55 |
| | δ Ursæ Minoris S.P. | 57·0 | 39·5 | 23·0 | 6·0 | 50·0 | 22 23·10 | + 6·60 | ......... | +21·67 | 6 22 51·37 |
| | 42 Camelopardi | 0·5 | 36·0 | 11·0 | 45·9 | 21·3 | 34 10·94 | − 0·15 | ......... | +21·68 | 6 34 32·47 |
| | Piazzi VI. 334 | 34·0 | 0·5 | 27·3 | 54·0 | 21·0 | 5 27·36 | − 1·55 | ......... | +21·70 | 7 5 47·51 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. |  | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  |  | observed. | interpolated. |  |  |  |
|  |  | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Feb. 1 | $\delta$ Geminorum | 52·7 | 7·1 | 21·5 | 35·8 | 50·1 | 10 | 21·44 | + 0·57 | +21·73 | +21·70 | 7 | 10 | 43·71 |
|  | 57 Geminorum | 1·5 | 16·0 | 30·8 | 45·6 | 0·3 | 13 | 30·84 | + 0·55 | ......... | +21·70 | 7 | 13 | 53·09 |
|  | $\delta^2$Canis Minoris | 8·1 | 21·3 | 34·6 | 48·0 | 1·3 | 24 | 34·66 | + 0·69 | ......... | +21·71 | 7 | 24 | 57·06 |
|  | A.S.C. 934 | 0·0 | 14·2 | 28·3 | 42·5 | 56·7 | 27 | 28·34 | + 0·59 | ......... | +21·71 | 7 | 27 | 50·64 |
|  | 74 Geminorum | 33·5 | 47·5 | 1·3 | 15·2 | 29·1 | 30 | 1·32 | + 0·60 | ......... | +21·72 | 7 | 30 | 23·64 |
|  | A.S.C. 960 | 57·4 | 11·4 | 25·6 | 39·7 | 53·8 | 42 | 25·58 | + 0·59 | ......... | +21·73 | 7 | 42 | 47·90 |
|  | Venus 2 Limb | 31·2 | 45·2 | 59·3 | 13·4 | 27·6 | 32 | 59·34 | + 0·84 | ......... | +22·23 | 20 | 33 | 22·41 |
| Feb. 2 | Sun 1 Limb | 13·0 | 26·8 | 40·6 | 54·6 | 8·4 | 1 | 40·68 | + 0·80 | ......... | +22·26 | 21 | 2 | 3·74 |
|  | Sun 2 Limb | 28·6 | 42·6 | 56·7 | 10·5 | 24·4 | 3 | 56·56 | + 0·80 | ......... | +22·26 | 21 | 4 | 19·62 |
|  | $\alpha$ Ursæ Minoris | 30·5 | 50·0 | 8·0 | 28·5 | 47·5 | 2 | 8·90 | −12·32 | ......... | +22·43 | 1 | 2 | 19·01 |
|  | $\alpha$ Arietis | 26·1 | 40·5 | 54·7 | 9·2 | 23·5 | 57 | 54·80 | + 0·54 | +22·44 | +22·50 | 1 | 58 | 17·84 |
|  | 31 Camelopardi | 37·2 | 3·6 | 30·2 | 56·6 | 23·0 | 40 | 30·12 | + 0·10 | ......... | +22·73 | 5 | 40 | 52·95 |
|  | $\alpha$ Orionis | 49·2 | 2·6 | 16·1 | 29·6 | 42·9 | 46 | 16·08 | + 0·65 | +22·73 | +22·74 | 5 | 46 | 39·47 |
|  | $\mu$ Geminorum | 34·6 | 49·1 | 3·5 | 17·9 | 32·2 | 13 | 3·46 | + 0·54 | +22·65 | +22·76 | 6 | 13 | 26·76 |
|  | $\delta$ Ursæ Minoris S.P. | 56·0 | 39·0 | 23·5 | 6·5 | ...... | 22 | 22·81 | + 6·53 | ......... | +22·77 | 6 | 22 | 52·11 |
|  | 13 Monocerotis | 33·7 | 47·1 | 0·7 | 14·0 | 27·6 | 24 | 0·62 | + 0·65 | ......... | +22·77 | 6 | 24 | 24·04 |
|  | $\nu^3$ Canis Majoris | 7·2 | 21·3 | 35·3 | 49·3 | 3·2 | 30 | 35·26 | + 0·81 | ......... | +22·78 | 6 | 30 | 58·85 |
|  | 42 Camelopardi | 59·3 | 34·6 | 9·8 | 44·8 | 19·8 | 34 | 9·66 | − 0·16 | ......... | +22·78 | 6 | 34 | 32·28 |
|  | $\alpha$ Canis Majoris | 22·2 | 36·0 | 49·8 | 3·6 | 17·7 | 37 | 49·86 | + 0·80 | +22·85 | +22·78 | 6 | 38 | 13·44 |
|  | $\mu$ Canis Majoris | 3·5 | 17·3 | 31·0 | 44·7 | 58·4 | 48 | 30·98 | + 0·79 | ......... | +22·79 | 6 | 48 | 54·56 |
|  | Piazzi VI. 334 | 32·5 | 59·0 | 26·4 | 53·2 | 20·0 | 5 | 26·22 | − 1·55 | ......... | +22·80 | 7 | 5 | 47·47 |
|  | $\delta$ Geminorum | 51·5 | 5·9 | 20·4 | 34·8 | 49·0 | 10 | 20·32 | + 0·55 | +22·87 | +22·81 | 7 | 10 | 43·68 |
| Feb. 3 | Sun 1 Limb | 15·0 | 28·8 | 42·7 | 56·7 | 10·6 | 5 | 42·76 | + 0·79 | ......... | +22·43 | 21 | 6 | 6·98 |
|  | Sun 2 Limb | 30·8 | 44·5 | 58·6 | 12·6 | 26·3 | 7 | 58·56 | + 0·79 | ......... | +22·43 | 21 | 8 | 22·78 |
|  | Mars 1 Limb | 50·2 | 3·7 | ...... | 30·1 | 43·6 | 30 | 16·90 | + 0·71 | ......... | +23·53 | 23 | 30 | 41·14 |
|  | $\alpha$ Ursæ Minoris | 29·0 | 47·5 | 6·0 | 27·0 | 44·0 | 2 | 6·70 | −12·12 | ......... | +23·62 | 1 | 2 | 18·20 |
|  | Groombridge 404 | 49·5 | 49·0 | 49·2 | 48·8 | 48·0 | 46 | 48·90 | − 0·82 | ......... | +23·64 | 1 | 47 | 11·72 |
|  | $\alpha$ Arietis | 24·8 | 39·2 | 53·5 | 7·9 | 22·4 | 57 | 53·56 | + 0·54 | +23·67 | +23·66 | 1 | 58 | 17·76 |
|  | Vesta | 31·4 | 44·6 | 57·8 | 11·2 | 24·7 | 2 | 57·94 | + 0·65 | ......... | +23·67 | 2 | 3 | 22·26 |
|  | Groombridge 931 | 56·3 | 1·2 | 6·6 | 12·0 | 17·2 | 1 | 6·66 | − 0·96 | ......... | +23·82 | 5 | 1 | 29·52 |
|  | $\beta$ Orionis | 7·4 | 20·8 | 34·2 | 47·7 | 1·1 | 6 | 34·24 | + 0·73 | +23·83 | +23·82 | 5 | 6 | 58·79 |
|  | $\psi^1$ Orionis | 43·8 | 57·3 | 10·5 | 23·8 | 37·0 | 16 | 10·48 | + 0·68 | ......... | +23·83 | 5 | 16 | 34·99 |
|  | $\delta$ Orionis | 7·2 | 20·5 | 33·9 | 47·1 | 0·3 | 23 | 33·80 | + 0·69 | +23·81 | +23·84 | 5 | 23 | 58·33 |
|  | 42 Orionis | 46·4 | 59·8 | 13·1 | 26·5 | 39·8 | 27 | 13·12 | + 0·72 | ......... | +23·84 | 5 | 27 | 37·68 |
|  | 31 Camelopardi | 36·0 | 2·4 | 29·0 | 55·4 | 21·8 | 40 | 28·92 | + 0·10 | ......... | +23·85 | 5 | 40 | 52·87 |
|  | $\alpha$ Orionis | 47·8 | 1·3 | 15·0 | 28·4 | 41·7 | 46 | 14·84 | + 0·64 | +23·97 | +23·85 | 5 | 46 | 39·33 |
|  | 4 Monocerotis | 11·7 | 25·4 | 38·8 | 52·5 | 6·1 | 0 | 38·90 | + 0·75 | ......... | +23·86 | 6 | 1 | 3·51 |
|  | 46 Aurigæ | 42·0 | 2·3 | 22·6 | 43·1 | 3·4 | 12 | 22·68 | + 0·29 | ......... | +23·87 | 6 | 12 | 46·84 |
|  | 77 Orionis | 18·1 | 31·4 | 44·6 | 58·0 | 11·2 | 18 | 44·66 | + 0·69 | ......... | +23·87 | 6 | 19 | 9·22 |
|  | $\delta$ Ursæ Minoris S.P. | 55·0 | ...... | 22·5 | 5·0 | ...... | 22 | 21·69 | + 6·43 | ......... | +23·88 | 6 | 22 | 52·00 |
|  | A.S.C. 816 | 8·1 | 22·0 | 35·8 | 49·8 | 3·7 | 24 | 35·88 | + 0·80 | ......... | +23·88 | 6 | 25 | 0·56 |
|  | $\nu^3$ Canis Majoris | 6·0 | 20·0 | 34·0 | 48·1 | 2·1 | 30 | 34·04 | + 0·80 | ......... | +23·88 | 6 | 30 | 58·72 |
|  | 17 Monocerotis | 56·0 | 9·4 | 22·8 | 36·3 | 49·7 | 38 | 22·84 | + 0·64 | ......... | +23·89 | 6 | 38 | 47·37 |
|  | $\mu$ Canis Majoris | 2·7 | 16·1 | 29·8 | 43·5 | 57·2 | 48 | 29·86 | + 0·78 | ......... | +23·89 | 6 | 48 | 54·53 |
|  | Piazzi VI. 334 | 31·2 | 57·6 | 24·0 | 51·0 | 18·0 | 5 | 24·36 | − 1·52 | ......... | +23·90 | 7 | 5 | 46·74 |
|  | $\delta$ Geminorum | 50·5 | 5·0 | 19·3 | 33·6 | 48·0 | 10 | 19·28 | + 0·55 | +23·90 | +23·91 | 7 | 10 | 43·74 |
|  | Venus 2 Limb | 50·6 | 4·7 | 18·8 | 33·0 | 47·1 | 43 | 18·84 | + 0·81 | ......... | +24·46 | 20 | 43 | 44·11 |
| Feb. 4 | Sun 1 Limb | 16·6 | 30·3 | 44·2 | 58·1 | 12·0 | 9 | 44·24 | + 0·81 | ......... | +24·49 | 21 | 10 | 9·54 |
|  | Sun 2 Limb | 32·1 | 45·9 | 59·8 | 13·6 | 27·5 | 11 | 59·78 | + 0·81 | ......... | +24·49 | 21 | 12 | 25·08 |
|  | Groombridge 931 | 55·2 | 1·2 | 6·0 | 11·2 | 16·6 | 1 | 6·04 | − 1·03 | ......... | +24·82 | 5 | 1 | 29·83 |
|  | $\alpha$ Aurigæ | 1·0 | 20·1 | 39·1 | 58·3 | 17·2 | 4 | 39·14 | + 0·33 | ......... | +24·83 | 5 | 5 | 4·30 |
|  | $\delta$ Orionis | 6·1 | 19·5 | 32·8 | 46·0 | 59·3 | 23 | 32·74 | + 0·70 | +24·85 | +24·84 | 5 | 23 | 58·28 |
|  | $\varepsilon$ Orionis | 21·8 | 35·1 | 48·4 | 1·8 | 15·0 | 27 | 48·42 | + 0·71 | +24·90 | +24·84 | 5 | 28 | 13·97 |
|  | 31 Camelopardi | 35·1 | 1·2 | 27·8 | 54·4 | 20·6 | 40 | 27·82 | − 0·08 | ......... | +24·85 | 5 | 40 | 52·59 |
|  | $\alpha$ Orionis | 47·1 | 0·5 | 14·0 | 27·3 | 40·6 | 46 | 13·90 | + 0·65 | +24·89 | +24·85 | 5 | 46 | 39·40 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | | observed. | interpolated. | | | |
| | | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Feb. 4 | θ Leporis | 9·2 | 23·0 | 36·6 | 50·5 | 4·3 | 58 | 36·72 | + 0·79 | ……… | +24·86 | 5 | 59 | 2·37 |
| | μ Geminorum | 32·4 | 46·8 | 1·2 | 15·6 | 30·0 | 13 | 1·20 | + 0·54 | +24·90 | +24·86 | 6 | 13 | 26·60 |
| | 78 Orionis | 21·1 | 34·4 | 47·7 | 1·0 | 14·2 | 18 | 47·68 | + 0·70 | ……… | +24·87 | 6 | 19 | 13·25 |
| | δ Ursæ Minoris S.P. | 53·5 | …… | 21·0 | 4·0 | 47·0 | 22 | 20·37 | + 6·76 | ……… | +24·88 | 6 | 22 | 52·01 |
| | A.S.C. 816 | 7·0 | 21·0 | 34·8 | 48·8 | 2·8 | 24 | 34·88 | + 0·82 | ……… | +24·88 | 6 | 25 | 0·58 |
| | 55 Aurigæ | 35·5 | 54·0 | 12·8 | 31·4 | 50·0 | 31 | 12·74 | + 0·34 | ……… | +24·88 | 6 | 31 | 37·96 |
| | 17 Monocerotis | 55·1 | 8·3 | 21·8 | 35·2 | 48·6 | 38 | 21·80 | + 0·64 | ……… | +24·89 | 6 | 38 | 47·33 |
| | α Herculis | 33·6 | 47·4 | 1·0 | 15·0 | 28·6 | 7 | 1·12 | + 0·60 | +25·43 | +25·33 | 17 | 7 | 27·05 |
| | (*a*) Moon 2 Limb | 14·0 | 29·3 | 44·6 | 0·2 | 15·7 | 16 | 44·76 | + 0·87 | ……… | +25·34 | 17 | 17 | 10·97 |
| | α Ophiuchi | 43·3 | 57·0 | 10·5 | 24·2 | 37·8 | 27 | 10·56 | + 0·61 | +25·31 | +25·35 | 17 | 27 | 36·52 |
| | Venus 2 Limb | 58·7 | 13·2 | 27·0 | 41·2 | 55·2 | 48 | 27·06 | + 0·81 | ……… | +25·48 | 20 | 48 | 53·35 |
| Feb. 5 | Sun 1 Limb | 17·2 | 31·1 | 45·0 | 59·0 | 12·8 | 13 | 45·02 | + 0·78 | ……… | +25·50 | 21 | 14 | 11·30 |
| | Sun 2 Limb | 32·5 | 46·4 | 0·3 | 14·3 | 28·1 | 16 | 0·32 | + 0·78 | ……… | +25·50 | 21 | 16 | 26·60 |
| | α Pegasi | 0·2 | 14·0 | 27·7 | 41·3 | 55·0 | 56 | 27·64 | + 0·60 | +25·51 | +25·57 | 22 | 56 | 53·81 |
| | Mars 1 Limb | 24·5 | 37·7 | 51·0 | 4·4 | 17·6 | 35 | 51·04 | + 0·70 | ……… | +25·59 | 23 | 36 | 17·33 |
| | α Andromedæ | 17·7 | 32·8 | 47·8 | 3·0 | 18·1 | 59 | 47·88 | + 0·50 | +25·63 | +25·61 | 0 | 0 | 13·99 |
| | α Ursæ Minoris | …… | 43·5 | 3·0 | 23·5 | 41·5 | 2 | 3·38 | − 12·12 | ……… | +25·65 | 1 | 2 | 16·91 |
| | Groombridge 404 | 47·1 | 46·8 | 46·5 | 46·2 | 46·0 | 46 | 46·52 | − 0·82 | ……… | +25·68 | 1 | 47 | 11·38 |
| | α Arietis | 22·5 | 37·0 | 51·5 | 5·8 | 20·2 | 57 | 51·40 | + 0·54 | +25·79 | +25·69 | 1 | 58 | 17·63 |
| | Vesta | 38·3 | 51·6 | 5·0 | 18·4 | 31·8 | 5 | 5·02 | + 0·65 | ……… | +25·69 | 2 | 5 | 31·36 |
| | α Orionis | 46·1 | 59·5 | 13·0 | 26·3 | 39·6 | 46 | 12·90 | + 0·65 | +25·88 | +25·90 | 5 | 46 | 39·45 |
| | 60 Orionis | 51·2 | 4·6 | 17·9 | 31·3 | 44·5 | 50 | 17·90 | + 0·58 | ……… | +25·91 | 5 | 50 | 44·39 |
| | A.S.C. 761 | 49·6 | 27·2 | 5·0 | 42·8 | 20·3 | 1 | 4·98 | − 0·23 | ……… | +25·92 | 6 | 1 | 30·67 |
| | Groombridge 1151 | 26·4 | 31·0 | 35·8 | 40·5 | 45·1 | 15 | 35·76 | − 0·93 | ……… | +25·93 | 6 | 16 | 0·76 |
| | 55 Aurigæ | 34·4 | 53·0 | 11·6 | 30·2 | 49·0 | 31 | 11·64 | + 0·34 | ……… | +25·94 | 6 | 31 | 37·92 |
| | 43 Camelopardi | 3·5 | 40·6 | 17·5 | 55·0 | 31·8 | 36 | 17·68 | − 0·21 | ……… | +25·94 | 6 | 36 | 43·41 |
| | μ Canis Majoris | 0·3 | 14·1 | 27·8 | 41·6 | 55·0 | 48 | 27·76 | + 0·77 | ……… | +25·96 | 6 | 48 | 54·49 |
| | 64 Aurigæ | 4·0 | 21·7 | 39·1 | 57·0 | 14·4 | 6 | 39·24 | + 0·38 | ……… | +25·98 | 7 | 7 | 5·60 |
| | 65 Aurigæ | 32·2 | 48·6 | 5·2 | 22·0 | 38·7 | 11 | 5·34 | + 0·43 | ……… | +25·98 | 7 | 11 | 31·75 |
| | 57 Geminorum | 57·2 | 11·6 | 26·5 | 41·2 | 56·0 | 13 | 26·50 | + 0·53 | ……… | +25·98 | 7 | 13 | 53·01 |
| | $\delta^2$ Canis Minoris | 3·8 | 17·1 | 30·3 | 43·7 | 57·0 | 24 | 30·38 | + 0·66 | ……… | +25·99 | 7 | 24 | 57·03 |
| | A.S.C. 934 | 55·6 | 10·0 | 24·2 | 38·4 | 52·4 | 27 | 24·12 | + 0·56 | ……… | +25·99 | 7 | 27 | 50·67 |
| | 74 Geminorum | 29·1 | 43·0 | 57·0 | 11·0 | 25·0 | 29 | 57·02 | + 0·57 | ……… | +26·00 | 7 | 30 | 23·59 |
| | β Geminorum | 44·5 | 59·6 | 14·7 | 30·0 | 45·0 | 35 | 14·76 | + 0·50 | +26·17 | +26·01 | 7 | 35 | 41·27 |
| | A.S.C. 960 | 53·0 | 7·2 | 21·3 | 35·4 | 49·5 | 42 | 21·28 | + 0·57 | ……… | +26·02 | 7 | 42 | 47·87 |
| | 10 Argus | 10·6 | 24·3 | 38·1 | 52·0 | 5·7 | 44 | 38·14 | + 0·78 | ……… | +26·02 | 7 | 45 | 4·94 |
| | 28 Monocerotis | 20·3 | 33·5 | 46·6 | 0·0 | 13·3 | 52 | 46·74 | + 0·70 | ……… | +26·04 | 7 | 53 | 13·48 |
| Feb. 10 | Sun 1 Limb | 9·1 | 22·6 | 36·3 | 50·0 | 3·9 | 33 | 36·38 | + 0·76 | ……… | +31·00 | 21 | 34 | 8·14 |
| | Sun 2 Limb | 23·2 | 37·0 | 50·7 | 4·5 | 18·2 | 35 | 50·72 | + 0·76 | ……… | +31·00 | 21 | 36 | 22·48 |
| | Mercury 1 Limb | 34·7 | 48·1 | 1·5 | 15·1 | 28·7 | 39 | 1·62 | + 0·73 | ……… | +31·03 | 22 | 39 | 33·38 |
| | α Pegasi | 54·5 | 8·2 | 22·0 | 35·7 | 49·4 | 56 | 21·96 | + 0·59 | +31·19 | +31·04 | 22 | 56 | 53·59 |
| | Mars 1 Limb | 16·0 | 29·4 | 42·8 | 56·1 | 9·4 | 49 | 42·74 | + 0·69 | ……… | +31·07 | 23 | 50 | 14·50 |
| | α Andromedæ | 12·3 | 27·3 | 42·4 | 57·5 | 12·6 | 59 | 42·42 | + 0·49 | +31·06 | +31·08 | 0 | 0 | 13·99 |
| | γ Pegasi | 7·6 | 21·3 | 35·0 | 48·7 | 2·4 | 4 | 35·00 | + 0·59 | +31·02 | +31·08 | 0 | 5 | 6·67 |
| | α Ursæ Minoris | 15·0 | 35·0 | 54·5 | 15·0 | 34·0 | 1 | 54·70 | − 12·23 | ……… | +31·15 | 1 | 2 | 13·62 |
| | Venus 2 Limb | 22·4 | 36·2 | 50·0 | 4·1 | 17·8 | 18 | 50·10 | + 0·78 | ……… | +31·80 | 21 | 19 | 22·68 |
| Feb. 11 | Sun 1 Limb | 5·0 | 18·8 | 32·7 | 46·4 | 0·1 | 37 | 32·60 | + 0·71 | ……… | +31·82 | 21 | 38 | 5·13 |
| | Sun 2 Limb | 19·3 | 32·9 | 46·6 | 0·5 | 14·3 | 39 | 46·72 | + 0·71 | ……… | +31·82 | 21 | 40 | 19·25 |
| | α Ursæ Minoris | 14·0 | 34·0 | 52·5 | 13·0 | 33·0 | 1 | 53·30 | − 12·69 | ……… | +31·93 | 1 | 2 | 12·54 |
| | α Aurigæ | 54·0 | 12·9 | 31·8 | 50·9 | 10·0 | 4 | 31·92 | + 0·25 | ……… | +32·06 | 5 | 5 | 4·23 |
| | β Orionis | 59·0 | 12·4 | 26·0 | 39·3 | 52·7 | 6 | 25·88 | + 0·67 | +32·14 | +32·06 | 5 | 6 | 58·61 |
| | η Orionis | 34·7 | 48·0 | 1·2 | 14·7 | 28·0 | 16 | 1·32 | + 0·64 | ……… | +32·07 | 5 | 16 | 34·03 |
| | δ Orionis | 58·9 | 12·2 | 25·5 | 38·8 | 52·0 | 23 | 25·48 | + 0·62 | +32·11 | +32·08 | 5 | 23 | 58·18 |
| | 42 Orionis | 38·1 | 51·4 | 4·8 | 18·1 | 31·3 | 27 | 4·74 | + 0·64 | ……… | +32·08 | 5 | 27 | 37·46 |
| | α Orionis | 39·9 | 53·2 | 6·7 | 20·1 | 33·4 | 46 | 6·66 | + 0·57 | +32·14 | +32·09 | 5 | 46 | 39·32 |

(*a*) Very faint.

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. |  | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  |  | observed. | interpolated. |  |  |  |
|  |  | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Feb. 11 | A.S.C. 761 | 43·6 | 21·3 | 58·8 | 36·8 | 14·2 | 0 | 58·94 | − 0·33 | ......... | +32·10 | 6 | 1 | 30·71 |
|  | μ Geminorum | 25·2 | 39·6 | 54·0 | 8·4 | 22·8 | 12 | 54·00 | + 0·46 | +32·12 | +32·11 | 6 | 13 | 26·57 |
|  | 78 Orionis | 13·9 | 27·1 | 40·5 | 53·8 | 7·0 | 18 | 40·46 | + 0·62 | ......... | +32·11 | 6 | 19 | 13·19 |
|  | δ Ursæ Minoris S.P. | 48·0 | ...... | 15·0 | 58·0 | 41·0 | 22 | 14·50 | + 6·58 | ......... | +32·12 | 6 | 22 | 53·20 |
|  | 43 Camelopardi | 57·5 | 34·3 | 11·6 | 48·8 | 26·0 | 36 | 11·64 | − 0·31 | ......... | +32·12 | 6 | 36 | 43·45 |
|  | 64 Aurigæ | 57·9 | 15·7 | 33·1 | 51·0 | 8·7 | 6 | 33·28 | + 0·29 | ......... | +32·13 | 7 | 7 | 5·70 |
|  | ζ Canis Minoris | 33·3 | 46·6 | 0·0 | 13·4 | 26·6 | 42 | 59·98 | + 0·60 | ......... | +32·15 | 7 | 43 | 32·73 |
|  | 28 Monocerotis | 14·1 | 27·4 | 40·7 | 54·1 | 7·3 | 52 | 40·72 | + 0·63 | ......... | +32·15 | 7 | 53 | 13·50 |
| Feb. 12 | α Ursæ Minoris | ...... | ...... | 49·0 | 11·0 | 32·0 | 1 | 51·62 | −11·95 | ......... | +32·46 | 1 | 2 | 12·13 |
|  | γ Ceti | 8·6 | 21·8 | 35·2 | 48·5 | 1·8 | 34 | 35·18 | + 0·62 | +32·47 | +32·50 | 2 | 35 | 8·30 |
|  | δ Orionis | 58·4 | 11·7 | 25·0 | 38·2 | 51·6 | 23 | 24·98 | + 0·64 | +32·57 | +32·55 | 5 | 23 | 58·17 |
|  | α Orionis | 39·4 | 52·8 | 6·1 | 19·5 | 32·9 | 46 | 6·14 | + 0·60 | +32·62 | +32·56 | 5 | 46 | 39·30 |
|  | A.S.C. 761 | 42·8 | 20·5 | 58·2 | 36·2 | 14·0 | 0 | 58·34 | − 0·26 | ......... | +32·57 | 6 | 1 | 30·65 |
|  | 64 Aurigæ | 57·6 | 15·2 | 32·7 | 50·2 | 7·9 | 6 | 32·72 | + 0·34 | ......... | +32·60 | 7 | 7 | 5·66 |
|  | δ Geminorum | 41·9 | 56·2 | 10·5 | 25·0 | 39·3 | 10 | 10·58 | + 0·50 | +32·62 | +32·61 | 7 | 10 | 43·69 |
|  | ζ Canis Minoris | 32·8 | 46·1 | 59·5 | 12·8 | 26·1 | 42 | 59·46 | + 0·63 | ......... | +32·63 | 7 | 43 | 32·72 |
|  | 55 Camelopardi | 20·0 | 57·2 | 33·8 | 11·2 | 47·5 | 56 | 33·94 | − 0·23 | ......... | +32·63 | 7 | 57 | 6·34 |
| Feb. 14 | $\alpha^2$ Geminorum | 27·8 | 43·5 | 59·2 | 15·0 | 30·5 | 23 | 59·20 | + 0·47 | +34·05 | +33·98 | 7 | 24 | 33·65 |
|  | α Canis Minoris | 2·8 | 16·2 | 29·6 | 43·0 | 56·4 | 30 | 29·60 | + 0·62 | +33·95 | +33·99 | 7 | 31 | 4·21 |
|  | β Geminorum | 36·8 | 51·8 | 6·9 | 22·0 | 37·0 | 35 | 6·90 | + 0·49 | +34·02 | +34·00 | 7 | 35 | 41·39 |
|  | 27 Lyncis | 19·6 | 41·0 | 2·5 | 24·1 | 45·6 | 56 | 2·56 | + 0·26 | ......... | +34·02 | 7 | 56 | 36·84 |
|  | β Cancri | 57·8 | 11·2 | 24·6 | 38·2 | 51·6 | 7 | 24·68 | + 0·61 | ......... | +34·03 | 8 | 7 | 59·32 |
| Feb. 15 | Sun 2 Limb | 56·5 | ...... | 23·8 | 37·4 | 51·1 | 55 | 23·78 | + 0·64 | ......... | +34·42 | 21 | 55 | 58·84 |
|  | α Pegasi | 51·4 | 5·1 | 18·8 | 32·5 | 46·2 | 56 | 18·80 | + 0·49 | +34·46 | +34·46 | 22 | 56 | 53·75 |
|  | Mercury 1 Limb | 45·5 | 58·8 | 12·1 | 25·6 | 38·8 | 1 | 12·16 | + 0·59 | ......... | +34·46 | 23 | 1 | 47·21 |
|  | α Andromedæ | 8·9 | 24·0 | 39·1 | 54·2 | 9·2 | 59 | 39·08 | + 0·41 | +34·44 | +34·50 | 0 | 0 | 13·99 |
|  | ε Piscium | 43·7 | 57·1 | 10·4 | 23·8 | 37·1 | 54 | 10·42 | + 0·54 | ......... | +34·55 | 0 | 54 | 45·51 |
|  | α Ursæ Minoris | 8·0 | ...... | 46·0 | 5·5 | ...... | 1 | 46·51 | −10·66 | ......... | +34·55 | 1 | 2 | 10·40 |
|  | Moon 1 Limb | 34·1 | 48·1 | 2·2 | 16·4 | 30·4 | 17 | 2·24 | + 0·49 | ......... | +34·56 | 1 | 17 | 37·29 |
|  | π Piscium | ...... | 56·1 | 9·5 | 23·1 | 36·6 | 28 | 9·55 | + 0·51 | ......... | +34·56 | 1 | 28 | 44·62 |
|  | β Arietis | 52·8 | 7·0 | 21·1 | 35·3 | 49·5 | 45 | 21·14 | + 0·46 | ......... | +34·57 | 1 | 45 | 56·17 |
|  | β Orionis | 56·4 | 9·8 | 23·2 | 36·7 | 50·1 | 6 | 23·24 | + 0·61 | +34·78 | +34·72 | 5 | 6 | 58·57 |
|  | 113 Tauri | 57·1 | 11·1 | 25·1 | 39·0 | 52·7 | 16 | 25·00 | + 0·48 | ......... | +34·73 | 5 | 17 | 0·21 |
|  | μ Geminorum | 22·6 | 37·0 | 51·3 | 5·8 | 20·1 | 12 | 51·36 | + 0·44 | +34·73 | +34·77 | 6 | 13 | 26·57 |
|  | 78 Orionis | 11·2 | 24·5 | 37·8 | 51·1 | 4·3 | 18 | 37·78 | + 0·57 | ......... | +34·77 | 6 | 19 | 13·12 |
|  | δ Ursæ Minoris S.P. | 47·5 | ...... | 15·0 | 57·5 | 41·0 | 22 | 14·25 | + 5·60 | ......... | +34·78 | 6 | 22 | 54·63 |
|  | 55 Aurigæ | 25·5 | 44·1 | 2·8 | 21·4 | 40·1 | 31 | 2·78 | + 0·28 | ......... | +34·79 | 6 | 31 | 37·85 |
|  | 43 Camelopardi | 54·4 | 31·6 | 8·6 | 45·7 | 23·0 | 36 | 8·66 | − 0·22 | ......... | +34·80 | 6 | 36 | 43·24 |
|  | $\alpha^2$ Geminorum | 27·0 | 42·7 | 58·4 | 14·2 | 29·8 | 23 | 58·42 | + 0·39 | +34·90 | +34·85 | 7 | 24 | 33·66 |
|  | 6 Argus | 32·1 | 46·0 | 0·0 | 13·8 | 27·8 | 41 | 59·94 | + 0·66 | ......... | +34·86 | 7 | 42 | 35·46 |
|  | 10 Argus | 2·1 | 16·0 | 29·7 | 43·5 | 57·0 | 44 | 29·66 | + 0·64 | ......... | +34·86 | 7 | 45 | 5·16 |
|  | 28 Monocerotis | 11·6 | 24·8 | 38·1 | 51·4 | 4·7 | 52 | 38·12 | + 0·58 | ......... | +34·87 | 7 | 53 | 13·57 |
|  | 27 Lyncis | 18·6 | 40·1 | 1·7 | 23·1 | 44·7 | 56 | 1·64 | + 0·18 | ......... | +34·87 | 7 | 56 | 36·69 |
|  | 31 Lyncis | 51·7 | 9·8 | 28·2 | 46·8 | 5·1 | 11 | 28·32 | + 0·28 | ......... | +34·88 | 8 | 12 | 3·48 |
|  | $\pi^2$ Ursæ Majoris | 48·4 | 19·7 | 50·8 | 22·1 | 53·4 | 25 | 50·88 | − 0·08 | ......... | +34·89 | 8 | 26 | 25·69 |
|  | σ Hydræ | 30·4 | 43·7 | 57·0 | 10·4 | 23·7 | 29 | 57·04 | + 0·55 | ......... | +34·89 | 8 | 30 | 32·48 |
|  | ι Cancri | 4·9 | 20·1 | 35·2 | 50·6 | 5·8 | 36 | 35·32 | + 0·40 | ......... | +34·90 | 8 | 37 | 10·62 |
|  | Venus 2 Limb | ...... | 24·3 | 37·8 | 51·6 | 5·5 | 43 | 37·92 | + 0·65 | ......... | +35·23 | 21 | 44 | 13·80 |
| Feb. 16 | Sun 1 Limb | 35·7 | 49·5 | 3·1 | 16·8 | 30·4 | 57 | 3·10 | + 0·56 | ......... | +35·23 | 21 | 57 | 38·89 |
|  | Sun 2 Limb | 48·7 | 2·4 | 15·9 | 29·8 | 43·3 | 59 | 16·02 | + 0·56 | ......... | +35·23 | 21 | 59 | 51·81 |
|  | Mercury 1 Limb | ...... | 9·4 | 23·0 | 36·6 | 49·9 | 4 | 22·95 | + 0·53 | ......... | +35·25 | 23 | 4 | 58·73 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| | | | | | INSTRUMENT REVERSED. | | | | | | |
| Feb. 16 | α Andromedæ ........ | 8·2 | 23·2 | 38·4 | 53·5 | 8·5 | 59 38·36 | + 0·37 | +35·20 | +35·27 | 0 0 14·00 |
| | Mars 1 Limb.......... | 51·6 | 5·0 | 18·3 | 31·6 | 44·8 | 6 18·26 | + 0·49 | ......... | +35·27 | 0 6 54·02 |
| | α Ursæ Minoris ...... | 6·0 | 24·0 | 43·5 | 3·0 | 22·0 | 1 43·70 | − 9·17 | ......... | +35·33 | 1 2 9·86 |
| | β Arietis.............. | 52·0 | 6·1 | ...... | 34·4 | 48·6 | 45 20·28 | + 0·41 | ......... | +35·37 | 1 45 56·06 |
| | α Arietis .............. | 13·0 | 27·3 | 41·6 | 56·2 | 10·5 | 57 41·72 | + 0·39 | +35·47 | +35·38 | 1 58 17·49 |
| | Moon 1 Limb......... | 30·0 | 44·1 | 58·5 | 12·8 | 27·1 | 6 58·50 | + 0·42 | ......... | +35·40 | 2 7 34·32 |
| | ν Arietis .............. | 48·0 | 2·2 | 16·6 | 30·8 | 45·1 | 29 16·54 | + 0·40 | ......... | +35·43 | 2 29 52·37 |
| | ε Arietis .............. | 8·2 | 22·4 | 36·6 | 50·8 | 5·0 | 49 36·60 | + 0·40 | ......... | +35·45 | 2 50 12·45 |
| | α Ceti .................. | 0·0 | 13·3 | 26·7 | 40·0 | 53·3 | 53 26·66 | + 0·47 | +35·57 | +35·47 | 2 54 2·60 |
| | α Aurigæ ............ | 50·5 | 9·4 | 28·3 | 47·5 | 6·6 | 4 28·46 | + 0·24 | ......... | +35·56 | 5 5 4·26 |
| | β Orionis ............. | 55·8 | 9·0 | 22·5 | 36·0 | 49·3 | 6 22·52 | + 0·53 | +35·57 | +35·56 | 5 6 58·61 |
| | η Orionis.............. | 31·4 | 44·8 | 58·0 | 11·2 | 24·6 | 15 58·00 | + 0·51 | ......... | +35·57 | 5 16 34·08 |
| | δ Ursæ Minoris S.P. | ...... | 30·5 | 13·0 | 57·0 | ...... | 22 13·61 | + 4·85 | ......... | +35·60 | 6 22 54·06 |
| | 57 Geminorum ....... | 47·9 | 2·6 | 17·2 | 31·8 | 46·5 | 13 17·20 | + 0·39 | ......... | +35·62 | 7 13 53·21 |
| | α² Geminorum........ | 26·3 | 42·0 | 57·7 | 13·5 | 29·3 | 23 57·76 | + 0·35 | +35·60 | +35·62 | 7 24 33·73 |
| | 27 Lyncis ............ | 18·0 | 39·4 | 1·0 | 22·6 | 44·1 | 56 1·02 | + 0·18 | ......... | +35·64 | 7 56 36·84 |
| | 16 Argus ............. | 56·9 | 10·8 | 24·7 | 38·7 | 52·7 | 1 24·76 | + 0·58 | ......... | +35·64 | 8 2 0·98 |
| | 19 Argus ............. | 50·5 | 4·0 | 17·7 | 31·6 | 45·0 | 3 17·76 | + 0·54 | ......... | +35·64 | 8 3 53·94 |
| | 20 Argus............. | 3·0 | 16·7 | 30·5 | 44·2 | 58·0 | 5 30·48 | + 0·56 | ......... | +35·64 | 8 6 6·68 |
| | 21 Argus ............. | 7·2 | 20·9 | 34·7 | 48·6 | 2·5 | 9 34·78 | + 6·56 | ......... | +35·64 | 8 10 10·98 |
| | 22 Argus ............. | 20·3 | 34·0 | 47·8 | 1·3 | 14·9 | 14 47·66 | + 0·54 | ......... | +35·65 | 8 15 23·85 |
| | 30 Monocerotis ...... | 45·5 | 59·0 | 12·2 | 25·5 | 39·0 | 17 12·24 | + 0·51 | ......... | +35·65 | 8 17 48·40 |
| | σ Hydræ .............. | 29·8 | 43·0 | 56·3 | 9·7 | 23·0 | 29 56·36 | + 0·48 | ......... | +35·65 | 8 30 32·49 |
| | 9 Hydræ .............. | 22·3 | 36·0 | 49·8 | 3·6 | 17·5 | 33 49·84 | + 0·56 | ......... | +35·65 | 8 34 26·05 |
| | ι Cancri................. | 4·2 | 19·5 | 34·6 | 49·8 | 5·1 | 36 34·64 | + 0·36 | ......... | +35·66 | 8 37 10·66 |
| | ρ² Cancri ............... | 7·4 | 22·5 | 37·7 | 52·8 | 8·0 | 42 37·68 | + 0·36 | ......... | +35·66 | 8 43 13·70 |
| Feb. 18 | ε Hydræ ............... | 22·5 | 35·8 | 49·2 | 2·5 | 15·9 | 37 49·18 | + 0·45 | +37·37 | +37·38 | 8 38 27·01 |
| | α Hydræ ............... | 47·1 | 0·6 | 14·1 | 27·5 | 41·0 | 19 14·06 | + 0·51 | +37·34 | +37·40 | 9 19 51·97 |
| | ε Leonis ............... | 48·6 | 2·8 | 17·6 | 32·2 | 46·8 | 36 17·60 | + 0·37 | +37·44 | +37·41 | 9 36 55·38 |
| Feb. 19 | Sun 1 Limb.... ...... | 8·6 | 22·1 | 35·7 | 49·3 | 3·0 | 8 35·74 | + 0·51 | ......... | +37·70 | 22 9 13·95 |
| | Sun 2 Limb........... | 21·1 | 34·7 | 48·2 | 1·8 | 15·3 | 10 48·22 | + 0·46 | ......... | +37·70 | 22 11 26·38 |
| | α Andromedæ ........ | 5·8 | 20·8 | 35·9 | 51·0 | 6·0 | 59 35·90 | + 0·33 | +37·68 | +37·78 | 0 0 14·01 |
| | α Ursæ Minoris ...... | 1·5 | 20·0 | 41·0 | 59·0 | 18·5 | 1 40·00 | − 9·71 | ......... | +37·81 | 1 2 8·10 |
| | η Tauri ................. | 0·0 | 14·6 | 29·3 | 43·8 | 58·6 | 37 29·26 | + 0·34 | +38·10 | +37·91 | 3 38 7·51 |
| | υ¹ Tauri ................. | 46·6 | 1·0 | 15·3 | 29·5 | 44·0 | 16 15·28 | + 0·34 | ......... | +37·93 | 4 16 53·55 |
| | α Tauri.................. | 47·4 | 1·3 | 15·0 | 29·0 | 42·8 | 26 15·10 | + 0·39 | +37·92 | +37·93 | 4 26 53·42 |
| | Moon 1 Limb......... | 34·0 | 49·5 | 4·8 | 20·1 | 35·3 | 1 4·74 | + 0·34 | ......... | +37·95 | 5 1 43·03 |
| | β Orionis.............. | ...... | 6·7 | 20·3 | 33·5 | 47·0 | 6 20·16 | + 0·50 | +37·89 | +37·95 | 5 6 58·61 |
| Feb. 20 | β Orionis.............. | 52·6 | 6·0 | 19·5 | 32·9 | 46·3 | 6 19·46 | + 0·57 | +38·53 | +38·49 | 5 6 58·52 |
| | β Tauri................. | 11·6 | 26·7 | 41·9 | 56·9 | 12·0 | 15 41·82 | + 0·40 | +38·48 | +38·50 | 5 16 20·72 |
| | δ Orionis.............. | 52·6 | 5·8 | 19·1 | 32·5 | 45·7 | 23 19·14 | + 0·54 | +38·41 | +38·50 | 5 23 58·18 |
| | ε Orionis .............. | 8·1 | 21·5 | 34·8 | 48·1 | 1·4 | 27 34·78 | + 0·53 | +38·51 | +38·51 | 5 28 13·82 |
| | α Orionis.............. | 33·4 | 46·8 | 0·2 | 13·7 | 27·0 | 46 0·22 | + 0·51 | +38·53 | +38·52 | 5 46 39·25 |
| Feb. 21 | Sun 1 Limb .......... | 47·5 | 0·9 | 14·4 | 27·9 | 41·6 | 16 14·46 | + 0·60 | ......... | +39·02 | 22 16 54·08 |
| | Sun 2 Limb............ | 59·4 | 12·8 | 26·5 | 40·0 | 53·6 | 18 26·46 | + 0·60 | ......... | +39·02 | 22 19 6·08 |
| | Mercury 1 Limb..... | 49·5 | 2·7 | 15·8 | 29·2 | 42·5 | 12 15·94 | + 0·56 | ......... | +39·04 | 23 12 55·54 |
| | Mars 1 Limb ......... | | 50·7 | 3·8 | 17·4 | 30·6 | 20 3·97 | + 0·54 | ......... | +39·08 | 0 20 43·59 |
| | α Ursæ Minoris ...... | 58·5 | 17·5 | 38·5 | 57·0 | 16·0 | 1 37·50 | − 10·06 | ......... | +39·10 | 1 2 6·54 |
| | η Orionis.............. | 27·5 | 41·0 | 54·2 | 7·6 | 20·9 | 15 54·24 | + 0·56 | ......... | +39·25 | 5 16 34·05 |
| | δ Orionis.............. | 51·7 | 5·0 | 18·2 | 31·5 | 44·9 | 23 18·26 | + 0·55 | +39·26 | +39·26 | 5 23 58·07 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Feb. 21 | ε Orionis | 7·4 | 20·7 | 34·0 | 47·3 | 0·5 | 27 33·98 | + 0·56 | +39·26 | +39·26 | 5 28 13·80 |
| | α Orionis | 32·7 | 46·1 | 59·5 | 12·8 | 26·2 | 45 59·46 | + 0·52 | +39·26 | +39·27 | 5 46 39·25 |
| | 40 Camelopardi | 0·2 | 26·6 | 53·4 | 20·0 | 46·3 | 0 53·30 | + 0·07 | ......... | +39·28 | 6 1 32·65 |
| | Groombridge 1151 | 12·7 | 17·2 | 21·6 | 26·1 | 30·6 | 15 21·64 | − 0·16 | ......... | +39·28 | 6 16 0·76 |
| | δ Ursæ Minoris S.P. | ...... | 28·0 | 11·0 | 55·5 | 37·5 | 22 11·48 | + 5·33 | ......... | +39·28 | 6 22 56·09 |
| | ε Geminorum | 6·1 | 20·6 | 35·4 | 50·1 | 4·8 | 33 35·40 | + 0·43 | ......... | +39·29 | 6 34 15·12 |
| | ζ Geminorum | 38·5 | 52·8 | 7·0 | 21·2 | 35·5 | 54 7·00 | + 0·45 | ......... | +39·30 | 6 54 46·75 |
| | Moon 1 Limb | 56·2 | 11·0 | 26·1 | 41·0 | 56·0 | 11 26·06 | + 0·43 | ......... | +39·30 | 7 12 5·79 |
| | $\alpha^2$ Geminorum | 22·7 | 38·1 | 54·0 | 9·6 | 25·4 | 23 53·96 | + 0·39 | +39·32 | +39·31 | 7 24 33·66 |
| | υ Geminorum | 4·1 | 19·0 | 34·0 | 49·0 | 4·0 | 25 34·02 | + 0·41 | ......... | +39·31 | 7 26 13·74 |
| | α Canis Minoris | 58·7 | 11·0 | 24·4 | 37·8 | 51·1 | 30 24·42 | + 0·52 | +39·19 | +39·31 | 7 31 4·25 |
| | β Geminorum | 31·4 | 46·5 | 1·6 | 16·5 | 31·7 | 35 1·54 | + 0·41 | +39·41 | +39·31 | 7 35 41·26 |
| | 6 Argus | 27·8 | 41·6 | 55·5 | 9·3 | 23·0 | 41 55·44 | + 0·63 | ......... | +39·32 | 7 42 35·39 |
| | 10 Argus | 57·9 | 11·4 | 25·0 | 38·8 | 52·3 | 44 25·08 | + 0·61 | ......... | +39·32 | 7 45 5·01 |
| | 55 Camelopardi | 13·6 | 50·1 | 27·2 | 4·2 | 41·3 | 56 27·28 | − 0·18 | ......... | +39·33 | 7 57 6·43 |
| | 16 Argus | 53·0 | 6·8 | 21·0 | 35·0 | 49·0 | 1 20·96 | + 0·64 | ......... | +39·33 | 8 2 0·93 |
| | 19 Argus | 46·9 | 0·5 | 14·0 | 27·7 | 41·2 | 3 14·06 | + 0·61 | ......... | +39·33 | 8 3 54·00 |
| | 20 Argus | 59·4 | 13·0 | 26·8 | 40·6 | 54·3 | 5 26·82 | + 0·62 | ......... | +39·33 | 8 6 6·77 |
| | 21 Argus | 3·3 | 17·1 | 31·0 | 44·8 | 58·7 | 9 30·98 | + 0·62 | ......... | +39·33 | 8 10 10·93 |
| | 22 Argus | 16·7 | 30·0 | 43·7 | 57·4 | 11·1 | 14 43·78 | + 0·61 | ......... | +39·34 | 8 15 23·73 |
| | 30 Monocerotis | 42·0 | 55·2 | 8·5 | 21·9 | 35·1 | 17 8·54 | + 0·56 | ......... | +39·34 | 8 17 48·44 |
| | ⁎ D. +20° 16′ | 26·4 | 40·6 | 54·8 | 9·0 | 23·3 | 27 54·82 | + 0·45 | ......... | +39·35 | 8 28 34·62 |
| | η Hydræ | 54·0 | 7·2 | 20·5 | 33·8 | 47·3 | 34 20·56 | + 0·53 | ......... | +39·35 | 8 35 0·44 |
| | 12 Hydræ | 50·0 | 3·7 | 17·5 | 30·9 | 44·6 | 38 17·34 | + 0·62 | ......... | +39·35 | 8 38 57·31 |
| | θ Hydræ | 5·0 | 18·2 | 31·4 | 44·6 | 57·9 | 5 31·42 | + 0·53 | ......... | +39·36 | 9 6 11·31 |
| Feb. 23 | Sun 1 Limb | 23·4 | 36·9 | 50·3 | 3·9 | 17·6 | 23 50·42 | + 0·57 | ......... | +40·33 | 22 24 31·32 |
| | Sun 2 Limb | 35·1 | 48·6 | 2·2 | 15·6 | 29·0 | 26 2·10 | + 0·57 | ......... | +40·33 | 22 26 43·00 |
| | δ Geminorum | 34·0 | 48·2 | 2·5 | 17·0 | 31·2 | 10 2·58 | + 0·41 | +40·62 | +40·63 | 7 10 43·62 |
| | $\alpha^2$ Geminorum | 21·1 | 36·8 | 52·6 | 8·5 | 24·0 | 23 52·60 | + 0·36 | +40·68 | +40·63 | 7 24 33·59 |
| | β Geminorum | 30·1 | 45·1 | 0·2 | 15·4 | 30·7 | 35 0·30 | + 0·38 | +40·66 | +40·64 | 7 35 41·32 |
| | Moon 1 Limb | 41·7 | 55·8 | 9·9 | 24·0 | 38·0 | 17 9·88 | + 0·45 | ......... | +40·68 | 9 17 51·01 |
| | α Hydræ | 44·0 | 57·3 | 10·8 | 24·1 | 37·6 | 19 10·76 | + 0·57 | +40·59 | +40·68 | 9 19 52·01 |
| | ο Leonis | 37·2 | 50·8 | 4·4 | 18·0 | 31·5 | 32 4·38 | + 0·47 | ......... | +40·68 | 9 32 45·53 |
| | ε Leonis | 45·1 | 59·6 | 14·2 | 29·0 | 43·7 | 36 14·32 | + 0·41 | +40·69 | +40·69 | 9 36 55·42 |
| | α Leonis | 51·5 | 5·1 | 19·0 | 32·4 | 46·1 | 59 18·82 | + 0·46 | +40·68 | +40·69 | 9 59 59·97 |
| Feb. 24 | Sun 1 Limb | 10·7 | 23·9 | 37·6 | 51·0 | 4·4 | 27 37·52 | + 0·57 | ......... | +40·98 | 22 28 19·07 |
| | Sun 2 Limb | 21·8 | 35·3 | 49·0 | 2·3 | 15·8 | 29 48·84 | + 0·57 | ......... | +40·98 | 22 30 30·39 |
| | α Andromedæ | 2·3 | 17·4 | 32·5 | 47·6 | 2·7 | 59 32·50 | + 0·40 | +40·99 | +41·03 | 0 0 13·93 |
| | Mars 1 Limb | 52·0 | 5·3 | 18·6 | 31·8 | 45·1 | 28 18·56 | + 0·52 | ......... | +41·05 | 0 29 0·13 |
| | α Ursæ Minoris | 56·5 | 14·0 | 34·5 | 52·0 | 12·5 | 1 33·90 | − 9·65 | ......... | +41·08 | 1 2 5·33 |
| | α Aurigæ | 44·7 | 3·6 | 22·7 | 41·6 | 0·6 | 4 22·64 | + 0·26 | ......... | +41·21 | 5 5 4·11 |
| | β Orionis | 44·9 | 3·3 | 16·6 | 30·1 | 43·6 | 6 16·70 | + 0·57 | +41·23 | +41·21 | 5 6 58·48 |
| | 113 Tauri | 50·9 | 4·5 | 18·6 | 32·4 | 46·2 | 16 18·52 | + 0·46 | ......... | +41·22 | 5 17 0·30 |
| | α Orionis | 30·6 | 44·0 | 57·4 | 10·9 | 24·2 | 45 57·42 | + 0·51 | +41·27 | +41·24 | 5 46 39·17 |
| | 40 Camelopardi | 58·4 | 25·0 | 51·5 | 17·8 | 44·4 | 0 51·42 | + 0·08 | ......... | +41·25 | 6 1 32·75 |
| | $\alpha^2$ Geminorum | 20·7 | 36·2 | 51·8 | 7·7 | 23·6 | 23 52·00 | + 0·38 | +41·25 | +41·29 | 7 24 33·67 |
| | ζ Canis Minoris | 24·4 | 37·7 | 51·1 | 4·3 | 17·7 | 42 51·04 | + 0·53 | ......... | +41·30 | 7 43 32·87 |
| | 55 Camelopardi | 12·0 | 48·6 | 25·5 | 2·3 | 39·1 | 56 25·50 | − 0·16 | ......... | +41·31 | 7 57 6·65 |
| | 18 Argus | 13·8 | 27·3 | 41·0 | 54·8 | 8·2 | 2 41·02 | + 0·60 | ......... | +41·31 | 8 3 22·93 |
| | 20 Argus | 57·4 | 11·2 | 24·8 | 38·6 | 52·5 | 5 24·90 | + 0·60 | ......... | +41·31 | 8 6 6·89 |
| | 21 Argus | 1·5 | 15·2 | 29·0 | 42·9 | 56·8 | 9 29·08 | + 0·60 | ......... | +41·31 | 8 10 10·99 |
| | 30 Monocerotis | 39·9 | 53·1 | 6·5 | 19·8 | 33·2 | 17 6·50 | + 0·55 | ......... | +41·32 | 8 17 48·37 |
| | ⁎ D + 20° 16′ | 24·7 | 38·8 | 53·0 | 7·1 | 21·2 | 27 52·96 | + 0·44 | ......... | +41·32 | 8 28 34·72 |
| | η Hydræ | 52·1 | 5·3 | 18·7 | 32·1 | 45·5 | 34 18·74 | + 0·51 | ......... | +41·33 | 8 35 0·58 |
| | 12 Hydræ | 48·0 | 1·7 | 15·4 | 28·9 | 42·7 | 38 15·34 | + 0·60 | ......... | +41·33 | 8 38 57·27 |
| | θ Hydræ | 2·7 | 16·0 | 29·5 | 42·7 | 56·0 | 5 29·38 | + 0·52 | ......... | +41·35 | 9 6 11·25 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Feb. 24 | 24 Hydræ | 50·9 | 4·1 | 17·7 | 31·1 | 44·4 | 8 17·64 | + 0·57 | ......... | +41·35 | 9 8 59·56 |
|  | 26 Hydræ | 3·4 | 17·0 | 30·7 | 44·1 | 57·5 | 11 30·54 | + 0·58 | ......... | +41·35 | 9 12 12·47 |
|  | ϰ Leonis | 18·1 | 33·0 | 47·9 | 2·9 | 17·8 | 14 47·94 | + 0·40 | ......... | +41·35 | 9 15 29·69 |
|  | 28 Hydræ | 24·1 | 37·5 | 50·8 | 4·1 | 17·4 | 16 50·78 | + 0·55 | ......... | +41·36 | 9 17 32·69 |
|  | 10 Leonis Minoris | 20·2 | 37·0 | 53·4 | 10·0 | 26·8 | 23 53·48 | + 0·33 | ......... | +41·36 | 9 24 35·17 |
|  | 33 Hydræ | 33·7 | 47·0 | 0·4 | 13·7 | 27·1 | 26 0·38 | + 0·56 | ......... | +41·36 | 9 26 42·30 |
|  | o Leonis | 36·5 | 50·2 | 3·6 | 17·2 | 30·8 | 32 3·66 | + 0·48 | ......... | +41·37 | 9 32 45·51 |
|  | υ Ursæ Majoris | 13·1 | 39·4 | 5·7 | 32·0 | 58·3 | 39 5·70 | + 0·24 | ......... | +41·37 | 9 39 47·31 |
|  | $\upsilon^1$ Hydræ | 46·2 | 59·8 | 13·4 | 27·1 | 40·7 | 43 13·44 | + 0·60 | ......... | +41·38 | 9 43 55·42 |
|  | α Leonis | 50·8 | 4·4 | 18·1 | 31·7 | 45·4 | 59 18·08 | + 0·48 | +41·41 | +41·39 | 9 59 59·95 |
|  | 17 Sextantis | 10·5 | 23·7 | 37·3 | 50·8 | 4·1 | 1 37·28 | + 0·57 | ......... | +41·39 | 10 2 19·24 |
|  | Moon 1 Limb | 36·3 | 50·1 | 4·0 | ...... | 31·5 | 16 3·96 | + 0·50 | ......... | +41·39 | 10 16 45·85 |
|  | 48 Leonis | 27·3 | 40·8 | 54·2 | 7·6 | 21·0 | 25 54·18 | + 0·50 | ......... | +41·40 | 10 26 36·08 |
|  | χ Leonis | 46·0 | 59·5 | 12·9 | 26·0 | 39·4 | 56 12·76 | + 0·50 | ......... | +41·43 | 10 56 54·69 |
| Feb. 25 | α Arietis | 6·5 | 20·8 | 35·2 | 49·6 | 4·0 | 57 35·22 | + 0·50 | +41·75 | +41·78 | 1 58 17·50 |
|  | α Aurigæ | 43·8 | 2·7 | 21·9 | 40·9 | 0·0 | 4 21·86 | + 0·29 | ......... | +41·87 | 5 5 4·02 |
|  | β Orionis | 49·0 | .2·3 | 15·9 | 29·5 | 42·8 | 6 15·90 | + 0·68 | +41·90 | +41·87 | 5 6 58·45 |
|  | φ Aurigæ | 58·4 | 14·6 | 30·8 | 46·9 | 3·0 | 16 30·74 | + 0·42 | ......... | +41·88 | 5 17 13·04 |
|  | Groombridge 1151 | 9·5 | 14·2 | 19·0 | 23·6 | 28·2 | 15 18·90 | − 0·99 | ......... | +41·90 | 6 15 59·81 |
|  | δ Ursæ Minoris S.P. | ...... | 25·5 | 9·0 | 53·0 | 35·0 | 22 9·12 | + 6·46 | ......... | +41·90 | 6 22 57·48 |
|  | A.S.C. 834 | 22·7 | 22·3 | 22·2 | 21·9 | 22·2 | 36 22·26 | − 0·84 | ......... | +41·91 | 6 37 3·33 |
|  | A.S.C. 874 | 31·5 | 16·0 | 1·0 | 44·5 | 29·5 | 57 0·50 | − 2·06 | ......... | +41·91 | 6 57 40·35 |
|  | α Canis Minoris | 54·9 | 8·1 | 21·6 | 35·0 | 48·3 | 30 21·58 | + 0·60 | +41·91 | +41·94 | 7 31 4·12 |
|  | β Geminorum | 28·8 | 43·8 | 58·8 | 13·9 | 29·0 | 34 58·86 | + 0·47 | +41·99 | +41·94 | 7 35 41·27 |
|  | 6 Argus | 25·0 | 39·0 | 52·8 | 6·8 | 20·6 | 41 52·84 | + 0·74 | ... ..... | +41·95 | 7 42 35·53 |
|  | 55 Camelopardi | 10·5 | 47·6 | 24·7 | 1·6 | 38·8 | 56 24·64 | − 0·25 | ......... | +41·96 | 7 57 6·35 |
|  | 16 Argus | 50·0 | 4·0 | 18·0 | 32·1 | 46·1 | 1 18·04 | + 0·75 | ......... | +41·96 | 8 2 0·75 |
|  | 19 Argus | 44·1 | 57·8 | 11·4 | 24·9 | 38·6 | 3 11·36 | + 0·71 | ......... | +41·97 | 8 3 54·04 |
|  | β Cancri | 49·9 | 3·1 | 16·5 | 30·1 | 43·7 | 7 16·66 | + 0·58 | ......... | +41·97 | 8 7 59·21 |
|  | 31 Lyncis | 44·6 | 2·9 | 21·2 | 39·6 | 58·0 | 11 21·26 | + 0·33 | ......... | +41·97 | 8 12 3·56 |
|  | 1 Hydræ | 35·7 | 49·0 | 2·3 | 15·6 | 29·0 | 16 2·32 | + 0·66 | ......... | +41·98 | 8 16 44·96 |
|  | $\pi^2$ Ursæ Majoris | 41·5 | 12·4 | 43·7 | 15·0 | 46·2 | 25 43·76 | − 0·10 | ......... | +41·98 | 8 26 25·64 |
|  | η Hydræ | 51·2 | 4·5 | 17·9 | 31·1 | 44·6 | 34 17·86 | + 0·62 | ......... | +41·98 | 8 35 0·46 |
|  | 12 Hydræ | 47·1 | 0·9 | 14·7 | 28·2 | 41·8 | 38 14·54 | + 0·72 | ......... | +41·98 | 8 38 57·24 |
|  | $\varrho^1$ Cancri | 48·4 | 3·6 | 18·8 | 33·9 | 49·0 | 42 18·74 | + 0·46 | ......... | +41·99 | 8 43 1·19 |
|  | 24 Hydræ | 50·1 | 3·5 | 17·0 | 30·4 | 43·8 | 8 16·96 | + 0·68 | ......... | +42·00 | 9 8 59·64 |
|  | 26 Hydræ | 2·8 | 16·1 | 29·7 | 43·2 | 56·8 | 11 29·72 | + 0·71 | ......... | +42·00 | 9 12 12·43 |
|  | ϰ Leonis | 17·5 | 32·2 | 47·0 | 2·1 | 17·0 | 14 47·16 | + 0·47 | ......... | +42·00 | 9 15 29·63 |
|  | 28 Hydræ | 23·6 | 36·8 | 50·0 | 3·3 | 16·6 | 16 50·06 | + 0·67 | ......... | +42·00 | 9 17 32·73 |
|  | 10 Leonis Minoris | 19·4 | 36·0 | 52·7 | 9·4 | 26·0 | 23 52·70 | + 0·39 | ......... | +42·01 | 9 24 35·10 |
|  | 33 Hydræ | 33·0 | 46·2 | 59·5 | 13·0 | 26·4 | 25 59·62 | + 0·67 | ......... | +42·01 | 9 26 42·30 |
|  | 13 Leonis | 23·6 | 38·3 | 53·2 | 8·0 | 23·0 | 31 53·22 | + 0·48 | ......... | +42·01 | 9 32 35·71 |
|  | υ Ursæ Majoris | 12·2 | 38·6 | 4·8 | 31·2 | 57·7 | 39 4·90 | + 0·07 | ......... | +42·01 | 9 39 46·98 |
|  | $\upsilon^1$ Hydræ | 45·4 | 58·9 | 12·8 | 26·5 | 40·2 | 43 12·76 | + 0·73 | ......... | +42·02 | 9 43 55·51 |
|  | 15 Sextantis | 44·6 | 57·8 | 11·3 | 24·5 | 37·8 | 59 11·20 | + 0·64 | ......... | +42·02 | 9 59 53·86 |
|  | 17 Sextantis | 10·0 | 23·2 | 36·5 | 49·9 | 3·4 | 1 36·60 | + 0·68 | ......... | +12·02 | 10 2 19·30 |
|  | 48 Leonis | 26·8 | 40·1 | 53·6 | 7·0 | 20·5 | 25 53·60 | + 0·60 | ......... | +42·03 | 10 26 36·23 |
| Feb. 26 | β Orionis | 48·5 | 1·9 | 15·4 | 28·8 | 42·1 | 6 15·34 | + 0·71 | +42·41 | +42·42 | 5 6 58·47 |
|  | φ Aurigæ | 58·1 | 14·0 | 30·1 | 46·3 | 2·4 | 16 30·18 | + 0·42 | ......... | +42·42 | 5 17 13·02 |
|  | 40 Camelopardi | 56·7 | 23·3 | 50·1 | 16·6 | 43·2 | 0 49·98 | + 0·01 | ......... | +42·45 | 6 1 32·44 |
|  | Groombridge 1151 | 9·4 | 14·0 | 18·5 | 23·0 | 27·8 | 15 18·54 | − 1·15 | ......... | +42·45 | 6 15 59·84 |
|  | δ Ursæ Minoris S.P. | ...... | 24·5 | 8·0 | 51·5 | 35·0 | 22 8·24 | + 7·13 | ......... | +42·46 | 6 22 57·83 |
|  | A.S.C. 834 | 22·8 | 21·8 | 22·0 | 21·6 | 21·8 | 36 22·00 | − 1·01 | ......... | +42·46 | 6 37 3·45 |
|  | A.S.C. 874 | 30·5 | 14·5 | 59·0 | 44·2 | 28·6 | 56 59·36 | − 2·35 | ......... | +42·47 | 6 57 39·48 |
|  | δ Geminorum | 31·9 | 46·2 | 0·7 | 14·9 | 29·2 | 10 0·58 | + 0·51 | +42·48 | +42·48 | 7 10 43·57 |
|  | $\alpha^2$ Geminorum | 19·2 | 35·0 | 50·7 | 6·3 | 22·1 | 23 50·66 | + 0·44 | +42·51 | +42·48 | 7 24 33·58 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Feb. 26 | $\alpha$ Canis Minoris | 54·5 | 7·8 | 21·1 | 34·5 | 47·8 | 30 21·14 | + 0·62 | +42·32 | +42·49 | 7 31 4·25 |
| | $\beta$ Geminorum | 28·0 | 43·1 | 58·3 | 13·5 | 28·7 | 34 58·32 | + 0·47 | +42·52 | +42·49 | 7 35 41·28 |
| | $\zeta$ Canis Minoris | 23·0 | 36·2 | 49·5 | 2·9 | 16·2 | 42 49·56 | + 0·65 | ········· | +42·49 | 7 43 32·70 |
| | 31 Lyncis | 44·0 | 2·4 | 20·8 | 39·2 | 57·6 | 11 20·80 | + 0·31 | ········· | +42·50 | 8 12 3·61 |
| | A.S.C. 1026 | 19·0 | 32·2 | 45·6 | 59·0 | 12·5 | 16 45·66 | + 0·61 | ········· | +42·50 | 8 17 28·77 |
| | $\pi^2$ Ursæ Majoris | 40·5 | 12·0 | 43·2 | 14·5 | 45·8 | 25 43·20 | − 0·15 | ········· | +42·50 | 8 26 25·55 |
| | A.S.C. 1075 | 7·2 | 20·5 | 33·8 | 47·0 | 0·5 | 38 33·80 | + 0·67 | ········· | +42·51 | 8 39 16·98 |
| | $\varrho^1$ Cancri | 47·8 | 3·0 | 18·1 | 33·2 | 48·4 | 42 18·10 | + 0·46 | ········· | +42·51 | 8 43 1·07 |
| | $\theta$ Hydræ | 1·5 | 14·8 | 28·0 | 41·2 | 54·5 | 5 28·00 | + 0·64 | ········· | +42·52 | 9 6 11·16 |
| | 24 Hydræ | 49·8 | 3·1 | 16·3 | 29·8 | 43·2 | 8 16·44 | + 0·72 | ········· | +42·52 | 9 8 59·68 |
| | 26 Hydræ | 2·0 | 15·5 | 29·1 | 42·7 | 56·2 | 11 29·10 | + 0·73 | ········· | +42·52 | 9 12 12·35 |
| | $\varkappa$ Leonis | 17·0 | 31·8 | 46·7 | 1·5 | 16·4 | 14 46·68 | + 0·48 | ········· | +42·52 | 9 15 29·68 |
| | 28 Hydræ | 22·8 | 36·1 | 49·6 | 2·8 | 16·1 | 16 49·48 | + 0·69 | ········· | +42·52 | 9 17 32·69 |
| | 10 Leonis Minoris | 18·9 | 35·6 | 52·1 | 8·8 | 25·5 | 23 52·18 | + 0·38 | ········· | +42·53 | 9 24 35·09 |
| | 33 Hydræ | 32·2 | 45·6 | 59·0 | 12·5 | 25·8 | 25 59·02 | + 0·70 | ········· | +42·53 | 9 26 42·25 |
| | 13 Leonis | 23·1 | 37·8 | 52·6 | 7·6 | 22·3 | 31 52·68 | + 0·48 | ········· | +42·53 | 9 32 35·69 |
| | $\upsilon$ Ursæ Majoris | 11·5 | 38·0 | 4·6 | 30·9 | 57·3 | 39 4·46 | + 0·02 | ········· | +42·53 | 9 39 47·01 |
| | $\upsilon^1$ Hydræ | 44·9 | 58·6 | 12·1 | 25·8 | 39·5 | 43 12·18 | + 0·76 | ········· | +42·53 | 9 43 55·47 |
| | 17 Sextantis | 9·1 | 22·7 | 36·2 | 49·5 | 2·8 | 1 36·06 | + 0·71 | ········· | +42·54 | 10 2 19·31 |
| | $\upsilon$ Leonis | 44·5 | 57·8 | 11·1 | 24·5 | 37·8 | 28 11·14 | + 0·66 | ········· | +42·54 | 11 28 54·34 |
| | $\beta$ Virginis | 21·0 | 34·3 | 47·6 | 0·9 | 14·2 | 41 47·60 | + 0·64 | ········· | +42·55 | 11 42 30·79 |
| | Moon 2 Limb | 28·4 | 42·0 | 55·7 | 9·4 | 23·2 | 10 55·74 | + 0·71 | ········· | +42·59 | 12 11 39·04 |
| Mar. 1 | Sun 1 Limb | 58·8 | 12·1 | 25·5 | 38·9 | 52·5 | 46 25·56 | + 0·63 | ········· | +42·61 | 22 47 8·80 |
| | Sun 2 Limb | 9·4 | 22·7 | 36·1 | 49·5 | 3·1 | 48 36·16 | + 0·63 | ········· | +42·61 | 22 49 19·40 |
| | $\alpha$ Andromedæ | 0·6 | 15·7 | 30·8 | 45·8 | 1·0 | 59 30·78 | + 0·42 | +42·67 | +42·63 | 0 0 13·83 |
| | Mars 1 Limb | 36·7 | 49·9 | 3·4 | 16·8 | 30·1 | 42 3·38 | + 0·57 | ········· | +42·65 | 0 42 46·60 |
| | $\alpha$ Ursæ Minoris | 53·5 | 13·0 | 32·5 | 51·5 | 9·5 | 1 31·90 | −11·89 | ········· | +42·66 | 1 2 2·67 |
| | $\delta$ Ursæ Minoris S.P. | ······ | ······ | 8·5 | 52·0 | 34·5 | 22 8·56 | + 6·22 | ········· | +42·83 | 6 22 57·61 |
| | $\delta$ Geminorum | 31·7 | 45·9 | 0·2 | 14·6 | 29·0 | 10 0·28 | + 0·46 | +42·80 | +42·86 | 7 10 43·60 |
| | $\alpha^2$ Geminorum | 19·0 | 34·7 | 50·5 | 5·9 | 21·7 | 23 50·36 | + 0·40 | +42·81 | +42·87 | 7 24 33·63 |
| | $\alpha$ Canis Minoris | 53·9 | 7·2 | 20·7 | 34·0 | 47·3 | 30 20·62 | + 0·55 | +42·88 | +42·87 | 7 31 4·04 |
| | $\beta$ Geminorum | 27·8 | 42·8 | 57·9 | 13·0 | 28·0 | 34 57·90 | + 0·42 | +42·96 | +42·87 | 7 35 41·19 |
| | 18 Argus | 12·0 | 25·6 | 39·3 | 52·9 | 6·6 | 2 39·28 | + 0·66 | ········· | +42·88 | 8 3 22·82 |
| | $\pi^2$ Ursæ Majoris | 40·2 | 11·6 | 42·8 | 14·0 | 45·3 | 25 42·78 | − 0·11 | ········· | +42·89 | 8 26 25·56 |
| | A.S.C. 1075 | 6·9 | 20·1 | 33·5 | 46·8 | 0·2 | 38 33·50 | + 0·59 | ········· | +42·90 | 8 39 16·99 |
| | $\varrho^1$ Cancri | 47·4 | 2·6 | 17·8 | 33·0 | 48·1 | 42 17·78 | + 0·41 | ········· | +42·91 | 8 43 1·10 |
| Mar. 2 | $\delta$ Ursæ Minoris S.P. | ······ | ······ | 9·0 | 52·0 | 35·5 | 22 9·06 | + 6·48 | ········· | +43·62 | 6 22 59·16 |
| | $\delta$ Geminorum | 30·9 | 45·1 | 59·5 | 13·8 | 28·1 | 9 59·48 | + 0·49 | +43·56 | +43·63 | 7 10 43·60 |
| | $\alpha^2$ Geminorum | 18·0 | 33·8 | 49·5 | 5·0 | 21·0 | 23 49·46 | + 0·43 | +43·67 | +43·63 | 7 24 33·52 |
| | $\alpha$ Canis Minoris | 53·4 | 6·6 | 19·9 | 33·2 | 46·6 | 30 19·94 | + 0·59 | +43·51 | +43·64 | 7 31 4·17 |
| | $\beta$ Geminorum | 26·9 | 42·0 | 57·0 | 12·2 | 27·5 | 34 57·12 | + 0·45 | +43·70 | +43·64 | 7 35 41·21 |
| | A.S.C. 1026 | 17·6 | 30·9 | 44·4 | 57·8 | 11·5 | 16 44·44 | + 0·58 | ········· | +43·66 | 8 17 28·68 |
| | $\pi^2$ Ursæ Majoris | 39·2 | 10·8 | 42·1 | 13·2 | 44·6 | 25 41·98 | − 0·11 | ········· | +43·66 | 8 26 25·53 |
| | A.S.C. 1075 | 6·2 | 19·4 | 32·7 | 46·0 | 59·4 | 38 32·74 | + 0·63 | ········· | +43·66 | 8 39 17·03 |
| | 18 Ursæ Majoris | 21·6 | 44·4 | 7·5 | 30·2 | 53·2 | 4 7·38 | + 0·16 | ········· | +43·67 | 9 4 51·21 |
| | 38 Lyncis | 45·7 | 2·2 | 19·0 | 35·8 | 52·5 | 8 19·04 | + 0·37 | ········· | +43·67 | 9 9 3·08 |
| | $\alpha$ Hydræ | 40·8 | 54·4 | 7·6 | 21·1 | 34·5 | 19 7·68 | + 0·68 | +43·55 | +43·67 | 9 19 52·03 |
| | 13 Leonis | 21·8 | 36·6 | 51·5 | 6·6 | 21·5 | 31 51·60 | + 0·47 | ········· | +43·67 | 9 32 35·74 |
| | $\varphi$ Ursæ Majoris | 53·5 | 16·5 | 39·8 | 2·8 | 25·8 | 40 39·68 | + 0·15 | ········· | +43·68 | 9 41 23·51 |
| | 8 Sextantis | 32·8 | 46·1 | 59·5 | 12·9 | 26·3 | 43 59·52 | + 0·66 | ········· | +43·68 | 9 44 43·86 |
| Mar. 3 | Moon 2 Limb | 11·8 | 27·1 | 42·3 | 57·7 | 13·1 | 56 42·40 | + 0·76 | ········· | +44·55 | 16 57 27·71 |
| | $\alpha$ Ophiuchi | 25·0 | 38·6 | 52·1 | 5·7 | 19·4 | 26 52·16 | + 0·54 | +44·57 | +44·56 | 17 27 37·26 |
| Mar. 4 | Sun 1 Limb | 8·2 | 21·8 | 35·2 | 48·6 | 2·0 | 57 35·16 | + 0·63 | ········· | +44·73 | 22 58 20·52 |
| | Sun 2 Limb | 18·8 | 32·1 | 45·6 | 59·0 | 12·3 | 59 45·56 | + 0·63 | ········· | +44·73 | 22 0 30·92 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Mar. 4 | α Ursæ Minoris | 51·5 | 8·5 | 29·5 | 48·0 | ...... | 1 28·63 | −12·09 | ......... | +44·80 | 1 2 1·34 |
| | α Arietis | 3·3 | 17·7 | 32·0 | 46·5 | 1·0 | 57 32·10 | + 0·46 | +44·83 | +44·82 | 1 58 17·38 |
| | Groombridge 1151 | 6·7 | 11·0 | 15·5 | 20·0 | 24·2 | 15 15·48 | − 1·00 | ......... | +44·96 | 6 15 59·44 |
| | δ Ursæ Minoris S.P. | ...... | 24·5 | 7·5 | 51·5 | 33·5 | 22 8·25 | + 6·32 | ......... | +44·97 | 6 22 59·54 |
| | $\alpha^2$ Geminorum | 16·8 | 32·4 | 48·0 | 3·7 | 19·5 | 23 48·08 | + 0·40 | +45·05 | +45·01 | 7 24 33·49 |
| | α Canis Minoris | 51·8 | 5·1 | 18·5 | 31·8 | 45·1 | 30 18·46 | + 0·56 | +44·99 | +45·01 | 7 31 4·03 |
| | β Geminorum | 25·6 | 40·8 | 55·8 | 10·9 | 26·0 | 34 55·82 | + 0·42 | +45·00 | +45·01 | 7 35 41·25 |
| | 18 Argus | 9·8 | 23·4 | 37·0 | 50·7 | 4·3 | 2 37·04 | + 0·67 | ......... | +45·03 | 8 3 22·74 |
| | A.S.C. 1026 | 16·3 | 29·6 | 43·0 | 56·4 | 9·7 | 16 43·00 | + 0·55 | ......... | +45·03 | 8 17 28·58 |
| | ε Hydræ | 14·2 | 28·0 | 41·4 | 54·8 | 8·2 | 37 41·32 | + 0·55 | +45·07 | +45·04 | 8 38 26·91 |
| | 18 Ursæ Majoris | 20·0 | 43·0 | 6·0 | 29·0 | 51·8 | 4 5·96 | + 0·14 | ......... | +45·05 | 9 4 51·15 |
| | 38 Lyncis | 44·3 | 1·0 | 17·8 | 34·5 | 51·2 | 8 17·76 | + 0·34 | ......... | +45·05 | 9 9 3·15 |
| | A.S.C. 1135 | 20·5 | 56·3 | 32·3 | 8·0 | 43·5 | 13 32·12 | − 1·82 | ......... | +45·05 | 9 14 15·35 |
| | 23 Ursæ Majoris | 20·7 | 50·6 | 20·7 | 50·8 | 20·7 | 18 20·70 | − 0·07 | ......... | +45·06 | 9 19 5·69 |
| | ν Ursæ Majoris | 9·4 | 35·5 | 2·2 | 28·3 | 54·5 | 39 1·98 | + 0·03 | ......... | +45·07 | 9 39 47·08 |
| | μ Leonis | 34·0 | 48·8 | 3·7 | 18·6 | 33·5 | 43 3·72 | + 0·43 | ......... | +45·08 | 9 43 49·23 |
| | α Ophiuchi | 24·2 | 37·8 | 51·5 | 5·1 | 18·7 | 26 51·46 | + 0·52 | +45·32 | +45·32 | 17 27 37·30 |
| Mar. 7 | Sun 1 Limb | 14·1 | 27·3 | 40·6 | 54·0 | 7·5 | 8 40·70 | + 0·57 | ......... | +46·85 | 23 9 28·12 |
| | Sun 2 Limb | ...... | 37·3 | 50·7 | 4·1 | 17·6 | 10 50·74 | + 0·57 | ......... | +46·85 | 23 11 38·16 |
| | Mars 1 Limb | ...... | 17·5 | 30·8 | 44·1 | 57·6 | 58 30·81 | + 0·51 | ......... | +46·88 | 0 59 18·20 |
| | α Leonis | 45·2 | 58·9 | 12·5 | 26·1 | 39·7 | 59 12·48 | + 0·46 | +47·05 | +47·07 | 10 0 0·01 |
| | ζ Cygni | 54·4 | 9·5 | 25·0 | 40·2 | 55·5 | 5 24·92 | + 0·35 | +47·53 | +47·43 | 21 6 12·70 |
| | ε Pegasi | 11·0 | 24·3 | 37·8 | 51·3 | 4·8 | 35 37·84 | + 0·49 | +47·48 | +47·44 | 21 36 25·77 |
| Mar. 8 | Sun 1 Limb | 55·2 | 8·7 | 22·1 | 35·5 | 48·8 | 12 22·06 | + 0·57 | ......... | +47·47 | 23 13 10·10 |
| | Sun 2 Limb | 5·1 | 18·5 | 31·9 | 45·3 | 58·6 | 14 31·88 | + 0·57 | ......... | +47·47 | 23 15 19·92 |
| | ε Orionis | 59·0 | 12·3 | 25·5 | 38·8 | 52·2 | 27 25·56 | + 0·56 | +47·45 | +47·56 | 5 28 13·68 |
| | δ Ursæ Minoris S.P. | ...... | 24·0 | 7·0 | 50·5 | 33·5 | 22 7·25 | + 6·31 | ......... | +47·59 | 6 23 1·15 |
| | 51 (Hev.) Cephei | 52·0 | 30·5 | 10·0 | 48·0 | 28·0 | 24 9·70 | − 6·60 | ......... | +47·59 | 6 24 50·69 |
| | A.S.C. 834 | 16·0 | 15·6 | 16·0 | 15·5 | 15·5 | 36 15·72 | − 0·94 | ......... | +47·59 | 6 37 2·37 |
| | δ Geminorum | 26·6 | 41·0 | 55·5 | 9·8 | 24·1 | 9 55·40 | + 0·41 | +47·63 | +47·60 | 7 10 43·41 |
| | $\alpha^2$ Geminorum | 14·1 | 29·6 | 45·3 | 1·0 | 16·7 | 23 45·34 | + 0·34 | +47·55 | +47·61 | 7 24 33·29 |
| | α Canis Minoris | 49·3 | 2·5 | 15·8 | 29·1 | 42·4 | 30 15·82 | + 0·51 | +47·63 | +47·61 | 7 31 3·94 |
| | β Geminorum | 23·0 | 38·0 | 53·1 | 8·1 | 23·3 | 34 53·10 | + 0·37 | +47·72 | +47·61 | 7 35 41·08 |
| | Groombridge 1431 | 8·5 | 54·0 | 40·0 | 25·5 | 11·5 | 16 39·90 | − 2·15 | ......... | +47·60 | 8 17 25·38 |
| | 38 Lyncis | 41·7 | 58·1 | 15·0 | 31·8 | 48·5 | 8 15·02 | + 0·29 | ......... | +47·64 | 9 9 2·95 |
| | A.S.C. 1135 | 18·0 | 53·5 | 29·0 | 5·0 | 40·5 | 13 29·20 | − 1·89 | ......... | +47·64 | 9 14 14·95 |
| | Groombridge 1562 | 7·0 | 21·5 | 37·0 | 53·3 | 9·0 | 27 37·56 | − 1·36 | ......... | +47·65 | 9 28 23·85 |
| | φ Ursæ Majoris | 49·5 | 12·6 | 35·6 | 58·7 | 21·8 | 40 35·64 | + 0·09 | ......... | +47·65 | 9 41 23·38 |
| | 8 Sextantis | 28·8 | 42·0 | 55·5 | 9·0 | 22·4 | 43 55·54 | + 0·58 | ......... | +47·66 | 9 44 43·78 |
| | 15 Sextantis | 39·0 | 52·2 | 5·5 | 18·8 | 32·0 | 59 5·50 | + 0·55 | ......... | +47·66 | 9 59 53·71 |
| Mar. 9 | Sun 1 Limb | 36·3 | 49·7 | 3·1 | 16·5 | 29·8 | 16 3·08 | + 0·63 | ......... | +48·04 | 23 16 51·75 |
| | Sun 2 Limb | 45·9 | 59·2 | 12·7 | 26·0 | 39·4 | 18 12·64 | + 0·63 | ......... | +48·04 | 23 19 1·31 |
| | β Orionis | 42·6 | 56·0 | 9·4 | 22·8 | 36·2 | 6 9·40 | + 0·65 | +48·22 | +48·15 | 5 6 58·20 |
| | β Tauri | 1·7 | 16·6 | 31·8 | 46·9 | 2·0 | 15 31·80 | + 0·42 | +48·17 | +48·15 | 5 16 20·37 |
| | δ Ursæ Minoris S.P. | ...... | 24·0 | 6·5 | 50·5 | 33·0 | 22 7·00 | + 6·32 | ......... | +48·17 | 6 23 1·49 |
| | 51 (Hev.) Cephei | 51·5 | 29·5 | 10·0 | 47·5 | 27·5 | 24 9·20 | − 6·51 | ......... | +48·17 | 6 24 50·86 |
| | A.S.C. 834 | 15·8 | 15·0 | 15·5 | 15·0 | 15·2 | 36 15·30 | − 0·87 | ......... | +48·18 | 6 37 2·61 |
| | δ Geminorum | 26·2 | 40·5 | 54·8 | 9·2 | 23·6 | 9 54·86 | + 0·46 | +48·11 | +48·19 | 7 10 43·51 |
| | α Canis Minoris | 48·6 | 1·9 | 15·1 | 28·6 | 41·8 | 30 15·20 | + 0·56 | +48·19 | +48·20 | 7 31 3·96 |
| | β Geminorum | 22·3 | 37·4 | 52·5 | 7·7 | 22·8 | 34 52·54 | + 0·42 | +48·21 | +48·20 | 7 35 41·16 |
| | Groombridge 1431 | 8·0 | 53·3 | 39·0 | 25·3 | 11·2 | 16 39·36 | − 2·08 | ......... | +48·21 | 8 17 25·49 |
| | 18 Ursæ Majoris | 16·8 | 39·8 | 2·7 | 25·8 | 48·8 | 4 2·78 | + 0·14 | ......... | +48·23 | 9 4 51·15 |
| | A.S.C. 1135 | 18·0 | 53·0 | 29·2 | 4·0 | 40·5 | 13 28·94 | − 1·82 | ......... | +48·23 | 9 14 15·35 |
| | 23 Ursæ Majoris | 17·5 | 47·4 | 17·6 | 47·6 | 17·8 | 18 17·58 | − 0·06 | ......... | +48·23 | 9 19 5·75 |
| | Groombridge 1562 | 6·2 | 21·2 | 36·5 | 52·0 | 7·5 | 27 36·68 | − 1·29 | ......... | +48·24 | 9 28 23·63 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | | observed. | interpolated. | | | |
| | | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Mar. 9 | υ Ursæ Majoris | 5·8 | 32·2 | 58·6 | 25·1 | 51·6 | 38 | 58·66 | + 0·03 | ……… | +48·24 | 9 | 39 | 46·93 |
| | μ Leonis | 30·8 | 45·6 | 0·5 | 15·4 | 30·2 | 43 | 0·50 | + 0·43 | ……… | +48·24 | 9 | 43 | 49·17 |
| | 15 Sextantis | 38·2 | 51·6 | 4·8 | 18·1 | 31·4 | 59 | 4·82 | + 0·59 | ……… | +48·25 | 9 | 59 | 53·66 |
| Mar. 10 | α Ursæ Minoris | 45·0 | 2·5 | 22·0 | 41·0 | …… | 1 | 21·81 | −13·50 | ……… | +48·53 | 1 | 1 | 56·84 |
| | Mars 1 Limb | 18·5 | 31·8 | 45·1 | 58·5 | 12·0 | 6 | 45·18 | + 0·63 | ……… | +48·54 | 1 | 7 | 34·35 |
| | δ Orionis | 42·0 | 55·2 | 8·6 | 21·8 | 35·1 | 23 | 8·54 | + 0·65 | +48·60 | +48 62 | 5 | 23 | 57·81 |
| | ε Orionis | 57·5 | 10·8 | 24·1 | 37·4 | 50·8 | 27 | 24·12 | + 0·66 | +48·75 | +48·62 | 5 | 28 | 13·40 |
| | δ Ursæ Minoris S.P. | …… | 23·0 | 5·5 | 49·5 | 32·0 | 22 | 6·00 | + 7·04 | ……… | +48·65 | 6 | 23 | 1·69 |
| | 51 (Hev.) Cephei | 52·0 | 30·0 | 9·0 | 48·0 | 25·5 | 24 | 8·90 | − 7·27 | ……… | +48·66 | 6 | 24 | 50·29 |
| | 43 Camelopardi | 39·4 | 16·8 | 54·2 | 31·5 | 8·8 | 35 | 54·14 | − 0·33 | ……… | +48·66 | 6 | 36 | 42·47 |
| | δ Geminorum | 25·5 | 39·8 | 54·2 | 8·5 | 22·9 | 9 | 54·18 | + 0·51 | +48·72 | +48·68 | 7 | 10 | 43·37 |
| | $\alpha^2$ Geminorum | 12·9 | 28·6 | 44·2 | 0·0 | 15·7 | 23 | 44·28 | + 0·43 | +48·73 | +48·69 | 7 | 24 | 33·40 |
| | α Canis Minoris | 48·0 | 1·2 | 14·7 | 28·0 | 41·3 | 30 | 14·64 | + 0·62 | +48·68 | +48·69 | 7 | 31 | 3·95 |
| | 18 Ursæ Majoris | 16·4 | 38·8 | 2·1 | 25·3 | 48·0 | 4 | 2·12 | + 0·14 | ……… | +48·74 | 9 | 4 | 51·00 |
| | A.S.C. 1135 | 16·5 | 52·5 | 28·0 | 4·0 | 39·5 | 13 | 28·10 | − 2·05 | ……… | +48·75 | 9 | 14 | 14·80 |
| | φ Ursæ Majoris | 48·4 | 11·5 | 34·6 | 57·8 | 20·8 | 40 | 34·62 | + 0·14 | ……… | +48·77 | 9 | 41 | 23·53 |
| Mar. 11 | δ Orionis | 41·2 | 54·5 | 7·8 | 21·0 | 34·3 | 23 | 7·76 | + 0·51 | +49·51 | +49·51 | 5 | 23 | 57·78 |
| | ε Orionis | 56·8 | 10·1 | 23·4 | 36·7 | 50·1 | 27 | 23·42 | + 0·52 | +49·58 | +49·51 | 5 | 28 | 13·45 |
| | $\alpha^2$ Geminorum | 12·1 | 27·8 | 43·4 | 59·2 | 15·0 | 23 | 43·50 | + 0·32 | +49·60 | +49·61 | 7 | 24 | 33·43 |
| | α Canis Minoris | 47·4 | 0·7 | 14·1 | 27·3 | 40·5 | 30 | 14·00 | + 0·49 | +49·43 | +49·62 | 7 | 31 | 4·11 |
| | β Geminorum | 21·1 | 36·0 | 51·1 | 6·2 | 21·4 | 34 | 51·16 | + 0·35 | +49·63 | +49·62 | 7 | 35 | 41·13 |
| Mar. 12 | Sun 1 Limb | 36·7 | 50·0 | 3·4 | 16·7 | 29·9 | 27 | 3·34 | + 0·53 | ……… | +50·06 | 23 | 27 | 53·93 |
| | Sun 2 Limb | 45·8 | 59·2 | 12·5 | 25·9 | 39·3 | 29 | 12·54 | + 0·53 | ……… | +50·06 | 23 | 30 | 3·13 |
| | ε Leonis | 35·8 | 50·1 | 4·6 | 19·1 | 34·0 | 36 | 4·72 | + 0·38 | +50·30 | +50·33 | 9 | 36 | 55·43 |
| | α Leonis | 41·9 | 55·7 | 9·2 | 22·8 | 36·3 | 59 | 9·18 | + 0·44 | +50·36 | +50·34 | 9 | 59 | 59·96 |
| Mar. 14 | β Geminorum | 18·9 | 34·0 | 49·0 | 4·1 | 19·1 | 34 | 49·02 | + 0·30 | +51·78 | +51·62 | 7 | 35 | 40·94 |
| | Groombridge 1431 | 3·5 | 49·0 | 35·0 | 21·0 | 6·5 | 16 | 35·00 | − 2·04 | ……… | +51·63 | 8 | 17 | 24·59 |
| | ε Hydræ | …… | 21·6 | …… | 48·3 | …… | 37 | 34·95 | + 0·42 | +51·49 | +51·64 | 8 | 38 | 27·01 |
| Mar. 17 | Sun 1 Limb | 51·9 | 5·2 | 18·8 | 32·1 | 45·7 | 45 | 18·74 | + 0·41 | ……… | +52·62 | 23 | 46 | 11·77 |
| | ε Leonis | 33·0 | 47·6 | 2·2 | 17·0 | 31·7 | 36 | 2·30 | + 0·28 | +52·98 | +52·79 | 9 | 36 | 55·37 |
| | α Leonis | 39·8 | 53·3 | 6·8 | 20·5 | 34·2 | 59 | 6·92 | + 0·33 | +52·70 | +52·80 | 10 | 0 | 0·05 |
| | A.S.C. 1215 | 7·1 | 20·3 | 33·7 | 47·0 | 0·5 | 2 | 33·72 | + 0·43 | ……… | +52·80 | 10 | 3 | 26·95 |
| | ζ Leonis | 34·6 | 48·9 | 3·5 | 18·1 | 32·5 | 7 | 3·52 | + 0·28 | ……… | +52·81 | 10 | 7 | 56·61 |
| | 31 Leonis Minoris | 20·5 | 37·2 | 54·1 | 10·8 | 27·4 | 17 | 54·00 | + 0·19 | ……… | +52·81 | 10 | 18 | 47·00 |
| | 37 Ursæ Majoris | 18·0 | 43·1 | 8·1 | 33·0 | 58·2 | 24 | 8·08 | − 0·05 | ……… | +52·81 | 10 | 25 | 0·84 |
| | 37 Leonis Minoris | 27·6 | 43·2 | 59·2 | 15·0 | 30·8 | 28 | 59·16 | + 0·23 | ……… | +52·82 | 10 | 29 | 52·21 |
| | 41 Leonis Minoris | 30·0 | 44·4 | 59·0 | 13·6 | 28·2 | 33 | 59·04 | + 0·28 | ……… | +52·82 | 10 | 34 | 52·14 |
| | δ Leonis | 23·4 | 37·6 | 51·9 | 6·0 | 20·4 | 4 | 51·86 | + 0·29 | +52·77 | +52·83 | 11 | 5 | 44·98 |
| Mar. 18 | Sun 1 Limb | 30·3 | 43·8 | 57·0 | 10·3 | 23·7 | 48 | 57·02 | + 0·35 | ……… | +53·09 | 23 | 49 | 50·46 |
| | Venus 1 Limb | 35·9 | 49·2 | 2·6 | 15·8 | 29·2 | 4 | 2·54 | + 0·35 | ……… | +53·09 | 0 | 4 | 55·98 |
| | α Ursæ Minoris | …… | 51·0 | 12·0 | 29·5 | 48·5 | 1 | 10·77 | − 8·24 | ……… | +53·11 | 1 | 1 | 55·64 |
| | Mars 1 Limb | 19·9 | 33·2 | 46·6 | 0·1 | 13·7 | 28 | 46·70 | + 0·31 | ……… | +53·12 | 1 | 29 | 40·13 |
| | α Arietis | 55·2 | 9·6 | 23·8 | 38·2 | 52·6 | 57 | 23·88 | + 0·26 | +53·13 | +53·13 | 1 | 58 | 17·27 |
| | α Tauri | 31·8 | 45·7 | 59·5 | 13·3 | 27·1 | 25 | 59·48 | + 0·28 | +53·20 | +53·18 | 4 | 26 | 52·94 |
| | Moon 1 Limb | 57·7 | 12·8 | 28·0 | 43·1 | 58·1 | 39 | 27·94 | + 0·25 | ……… | +53·18 | 4 | 40 | 21·37 |
| | α Aurigæ | 32·0 | 51·0 | 10·2 | 29·1 | 48·3 | 4 | 10·12 | + 0·11 | ……… | +53·19 | 5 | 5 | 3·42 |
| | δ Orionis | 37·6 | 50·8 | 4·1 | 17·4 | 30·7 | 23 | 4·12 | + 0·35 | +53·19 | +53·20 | 5 | 23 | 57·67 |
| | ζ Tauri | 52·1 | 6·2 | 20·5 | 34·8 | 49·0 | 27 | 20·52 | + 0·27 | ……… | +53·20 | 5 | 28 | 13·99 |
| | δ Ursæ Minoris S.P. | …… | 24·0 | 6·5 | 50·0 | 33·0 | 22 | 6·99 | + 4·22 | ……… | +53·22 | 6 | 23 | 4·43 |
| | 51 (Hev.) Cephei | 41·0 | 19·0 | 58·0 | 37·5 | 15·5 | 23 | 58·20 | − 4·46 | ……… | +53·22 | 6 | 24 | 46·96 |
| | ε Hydræ | 6·3 | 19·8 | 33·2 | 46·7 | 0·0 | 37 | 33·20 | + 0·32 | +53·29 | +53·26 | 8 | 38 | 26·78 |
| | 18 Ursæ Majoris | 11·7 | 34·7 | 57·8 | 20·6 | 43·8 | 3 | 57·72 | + 0·03 | ……… | +53·28 | 9 | 4 | 51·03 |

| Date. | Object Observed. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Mar. 18 | A.S.C. 1135 | 11·0 | 47·0 | 22·5 | 58·5 | 33·0 | 13 22·40 | − 1·28 | ......... | +53·28 | 9 14 14·40 |
|  | 24 Ursæ Majoris | 17·6 | 57·1 | 37·0 | 17·0 | 57·0 | 19 37·14 | − 0·29 | ......... | +53·29 | 9 20 30·14 |
|  | Groombridge 1562 | 59·5 | 14·5 | 30·3 | 45·8 | 1·5 | 27 30·32 | − 0·93 | ......... | +53·29 | 9 28 22·68 |
|  | φ Ursæ Majoris | 43·7 | 6·7 | 29·9 | 52·8 | 15·9 | 40 29·80 | + 0·04 | ......... | +53·30 | 9 41 23·14 |
|  | 8 Sextantis | 23·2 | 36·6 | 50·0 | 3·5 | 16·9 | 43 50·04 | + 0·36 | ......... | +53·30 | 9 44 43·70 |
|  | 18 Sextantis | 46·5 | 0·0 | 13·4 | 26·9 | 40·2 | 2 13·40 | + 0·36 | ......... | +53·31 | 10 3 7·07 |
|  | Piazzi X. 22 | 46·0 | 40·5 | 36·5 | 31·0 | 25·5 | 10 35·90 | − 1·60 | ......... | +53·31 | 10 11 27·61 |
|  | 27 Sextantis | 30·3 | 43·6 | 57·0 | 10·2 | 23·7 | 17 56·96 | + 0·36 | ......... | +53·31 | 10 18 50·63 |
|  | 37 Ursæ Majoris | 17·4 | 42·3 | 7·6 | 32·7 | 57·8 | 24 7·56 | − 0·02 | ......... | +53·32 | 10 25 0·86 |
|  | 37 Leonis Minoris | 26·9 | 42·7 | 58·3 | 14·2 | 30·2 | 28 58·46 | + 0·21 | ......... | +53·32 | 10 29 51·99 |
|  | 41 Leonis Minoris | 29·4 | 44·0 | 58·6 | 13·1 | 27·6 | 33 58·54 | + 0·25 | ......... | +53·32 | 10 34 52·11 |
|  | 42 Leonis Minoris | 42·4 | 58·1 | 13·5 | 29·4 | 45·0 | 36 13·68 | + 0·21 | ......... | +53·32 | 10 37 7·21 |
|  | 41 Sextantis | 4·8 | 18·1 | 31·6 | 45·0 | 58·5 | 41 31·60 | + 0·37 | ......... | +53·32 | 10 42 25·29 |
|  | 46 Leonis Minoris | 5·0 | 21·1 | 37·5 | 53·8 | 10·0 | 43 37·48 | + 0·19 | ......... | +53·32 | 10 44 30·99 |
|  | 54 Leonis | 43·0 | 57·8 | 12·5 | 27·2 | 42·0 | 46 12·50 | + 0·25 | ......... | +53·33 | 10 47 6·08 |
|  | 60 Leonis | 34·2 | 48·5 | 2·8 | 17·1 | 31·3 | 53 2·78 | + 0·27 | ......... | +53·33 | 10 53 56·38 |
| Mar. 19 | Sun 1 Limb | 8·2 | 21·6 | 35·0 | 48·3 | 1·8 | 52 34·98 | + 0·47 | ......... | +53·58 | 23 53 29·03 |
|  | Sun 2 Limb | 17·4 | 30·8 | 44·1 | 57·4 | 10·8 | 54 44·10 | + 0·47 | ......... | +53·58 | 23 55 38·15 |
|  | Venus 1 Limb | 7·8 | 21·2 | 34·6 | 47·8 | 1·3 | 8 34·54 | + 0·47 | ......... | +53·58 | 0 9 28·59 |
|  | α Ursæ Minoris | 36·5 | 53·0 | 12·0 | 30·5 | 48·5 | 1 12·10 | −10·22 | ......... | +53·60 | 1 1 55·48 |
|  | α Aurigæ | 31·6 | 50·6 | 9·8 | 28·8 | 47·9 | 4 9·74 | + 0·18 | ......... | +53·66 | 5 5 3·58 |
|  | α Orionis | 18·0 | 31·4 | 44·8 | 58·1 | 11·6 | 45 44·78 | + 0·43 | +53·61 | +53·67 | 5 46 38·88 |
|  | μ Geminorum | 3·2 | 17·5 | 32·0 | 46·5 | 0·8 | 12 32·00 | + 0·35 | +53·68 | +53·68 | 6 13 26·03 |
|  | δ Ursæ Minoris S.P. | ...... | 23·0 | 5·5 | 49·0 | 31·5 | 22 5·76 | + 5·28 | ......... | +53·68 | 6 23 4·72 |
|  | 51 (Hev.) Cephei | 41·5 | 19·5 | 59·0 | 37·0 | 16·5 | 23 58·70 | − 5·52 | ......... | +53·68 | 6 24 46·86 |
|  | Groombridge 1431 | 59·2 | 45·5 | 31·6 | 17·8 | 3·5 | 16 31·52 | − 1·78 | ......... | +53·71 | 8 17 23·45 |
|  | ε Hydræ | 5·8 | 19·1 | 32·5 | 46·0 | 59·5 | 37 32·58 | + 0·43 | +53·79 | +53·72 | 8 38 26·73 |
|  | 24 Ursæ Majoris | 16·6 | 56·6 | 36·8 | 16·8 | 56·6 | 19 36·68 | − 0·33 | ......... | +53·73 | 9 20 30·08 |
|  | Groombridge 1562 | 59·2 | 14·5 | 29·5 | 45·0 | 0·5 | 27 29·74 | − 1·13 | ......... | +53·73 | 9 28 22·34 |
|  | φ Ursæ Majoris | 43·4 | 6·1 | 29·5 | 52·2 | 15·5 | 40 29·34 | + 0·08 | ......... | +53·74 | 9 41 23·16 |
|  | μ Leonis | 25·1 | 40·0 | 55·0 | 10·0 | 24·8 | 42 54·98 | + 0·33 | ......... | +53·74 | 9 43 49·05 |
|  | 18 Sextantis | 46·2 | 59·6 | 12·9 | 26·2 | 39·7 | 2 12·92 | + 0·50 | ......... | +53·74 | 10 3 7·16 |
|  | ζ Leonis | 33·4 | 48·0 | 2·5 | 17·1 | 31·7 | 7 2·54 | + 0·35 | ......... | +53·74 | 10 7 56·63 |
|  | 27 Sextantis | 29·7 | 43·0 | 56·4 | 9·8 | 23·0 | 17 56·38 | + 0·49 | ......... | +53·74 | 10 18 50·61 |
|  | 37 Ursæ Majoris | 17·2 | 42·0 | 7·1 | 32·1 | 57·2 | 24 7·12 | + 0·01 | ......... | +53·74 | 10 25 0·87 |
|  | 37 Leonis Minoris | 26·5 | 42·1 | 58·0 | 13·8 | 29·7 | 28 58·02 | + 0·29 | ......... | +53·74 | 10 29 52·05 |
|  | 41 Leonis Minoris | 28·9 | 43·4 | 57·9 | 12·5 | 27·0 | 33 57·94 | + 0·35 | ......... | +53·74 | 10 34 52·03 |
|  | 42 Leonis Minoris | 42·0 | 57·6 | 13·1 | 28·6 | 44·3 | 36 13·12 | + 0·29 | ......... | +53·74 | 10 37 7·15 |
|  | 41 Sextantis | 4·1 | 17·5 | 31·0 | 44·5 | 58·0 | 41 31·02 | + 0·50 | ......... | +53·75 | 10 42 25·27 |
|  | 46 Leonis Minoris | 4·3 | 20·8 | 37·0 | 53·1 | 9·2 | 43 36·88 | + 0·28 | ......... | +53·75 | 10 44 30·91 |
|  | 54 Leonis | 42·3 | 57·1 | 12·0 | 26·8 | 41·6 | 46 11·96 | + 0·34 | ......... | +53·75 | 10 47 6·05 |
|  | 60 Leonis | 33·6 | 47·8 | 2·0 | 16·3 | 30·6 | 53 2·06 | + 0·36 | ......... | +53·75 | 10 53 56·17 |
| Mar. 21 | Mars 1 Limb | 36·7 | 50·0 | 3·5 | 16·9 | 30·5 | 37 3·52 | + 0·48 | ......... | +54·73 | 1 37 58·73 |
|  | μ Geminorum | 1·9 | 16·2 | 30·7 | 45·1 | 59·5 | 12 30·68 | + 0·40 | +54·92 | +54·93 | 6 13 26·01 |
|  | δ Ursæ Minoris S.P. | 38·0 | 21·5 | 4·5 | 48·5 | 31·0 | 22 4·70 | + 5·97 | ......... | +54·94 | 6 23 5·61 |
|  | $\alpha^2$ Geminorum | 6·5 | 22·1 | 37·9 | 53·6 | 9·3 | 23 37·88 | + 0·35 | +55·03 | +54·96 | 7 24 33·19 |
|  | α Canis Minoris | 41·7 | 55·0 | 8·4 | 21·7 | 35·0 | 30 8·36 | + 0·50 | +54·91 | +54·97 | 7 31 3·83 |
|  | β Geminorum | 15·4 | 30·4 | 45·6 | 0·7 | 15·9 | 34 45·60 | + 0·37 | +55·01 | +54·97 | 7 35 40·94 |
|  | Moon 1 Limb | 49·2 | 3·8 | 18·6 | 33·4 | 47·9 | 47 18·58 | + 0·41 | ......... | +54·98 | 7 48 13·97 |
| Mar. 22 | Moon 1 Limb | 23·4 | 37·6 | 52·0 | 6·3 | 20·4 | 47 51·94 | + 0·43 | ......... | +56·08 | 8 48 48·45† |
|  | α Hydræ | 28·3 | 41·6 | 55·1 | 8·5 | 22·0 | 18 55·10 | + 0·56 | +56·12 | +56·11 | 9 19 51·77† |
|  | ξ Leonis | 4·4 | 18·1 | 31·5 | 45·1 | 58·7 | 22 31·56 | + 0·46 | ......... | +56·12 | 9 23 28·14† |
|  | ο Leonis | 21·8 | 35·4 | 49·0 | 2·4 | 16·0 | 31 48·92 | + 0·47 | ......... | +56·13 | 9 32 45·52† |
|  | ε Leonis | 29·5 | 44·2 | 58·9 | 13·4 | 28·0 | 35 58·80 | + 0·39 | +56·14 | +56·13 | 9 36 55·32† |
|  | α Leonis | 36·1 | 49·5 | 3·4 | 17·1 | 30·5 | 59 3·32 | + 0·45 | +56·16 | +56 15 | 9 59 59·92† |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Mar. 24 | Sun 1 Limb | 15·5 | 28·6 | 42·0 | 55·4 | 8·6 | 10 42·02 | + 0·54 | ......... | +57·64 | 0 11 40·20† |
| | Sun 2 Limb | 24·3 | 37·4 | 50·8 | 4·0 | 17·4 | 12 50·78 | + 0·54 | ......... | +57·64 | 0 13 48·96† |
| | α Ursæ Minoris | 35·5 | 51·0 | 12·0 | 30·0 | 48·5 | 1 11·40 | −13·32 | ......... | +57·66 | 1 1 55·74† |
| | α Arietis | 50·5 | 4·5 | 19·3 | 33·5 | 48·0 | 57 19·16 | + 0·38 | +57·69 | +57·68 | 1 58 17·22† |
| | α Tauri | 27·0 | 40·8 | 54·6 | 8·5 | 22·3 | 25 54·64 | + 0·44 | +57·79 | +57·74 | 4 26 52·82† |
| | α Hydræ | 26·5 | 40·0 | 53·4 | 6·7 | 20·2 | 18 53·36 | + 0·60 | +57·80 | +57·89 | 9 19 51·85† |
| | ε Leonis | 27·7 | 42·5 | 57·0 | 11·6 | 26·2 | 35 57·00 | + 0·37 | +57·94 | +57·90 | 9 36 55·27† |
| | α Leonis | 34·4 | 48·0 | 1·5 | 15·1 | 28·6 | 59 1·52 | + 0·45 | +57·94 | +57·93 | 9 59 59·90† |
| | ϱ Leonis | 6·6 | 20·2 | 33·7 | 47·2 | 0·6 | 23 33·66 | + 0·48 | ......... | +57·95 | 10 24 32·09† |
| | Moon 1 Limb | 26·0 | 39·5 | 53·3 | 7·1 | 20·8 | 42 53·34 | + 0·52 | ......... | +57·97 | 10 43 51·83† |
| | χ Leonis | 29·5 | 43·0 | 56·3 | 9·7 | 23·1 | 55 56·32 | + 0·47 | ......... | +57·98 | 10 56 54·77† |
| Mar. 26 | Sun 1 Limb | 30·0 | 43·3 | 56·5 | 10·0 | 23·3 | 17 56·62 | + 0·54 | ......... | +58·25 | 0 18 55·41† |
| | Sun 2 Limb | 38·8 | 52·0 | 5·4 | 18·6 | 32·1 | 20 5·38 | + 0·54 | ......... | +58·25 | 0 21 4·17† |
| | Venus 1 Limb | ...... | 3·2 | ...... | 30·0 | ...... | 40 16·60 | + 0·53 | ......... | +58·27 | 0 41 15·40† |
| | Venus 2 Limb | 50·5 | ...... | 17·1 | ...... | 43·8 | 40 17·13 | + 0·53 | ......... | +58·27 | 0 41 15·93† |
| | α Aurigæ | 26·1 | 45·1 | 4·2 | 23·3 | 42·3 | 4 4·20 | + 0·20 | ......... | +58·38 | 5 5 2·78† |
| | μ Geminorum | 58·4 | 12·6 | 27·0 | 41·4 | 55·7 | 12 27·02 | + 0·41 | +58·48 | +58·43 | 6 13 25·86 |
| | δ Ursæ Minoris S.P. | 35·5 | 19·0 | 2·0 | 46·5 | 29·0 | 22 2·40 | + 6·31 | ......... | +58·44 | 6 23 7·15 |
| | β Geminorum | 11·9 | 27·0 | 42·0 | 57·1 | 12·3 | 34 42·06 | + 0·37 | +58·46 | +58·49 | 7 35 40·92 |
| | Groombridge 1431 | 55·0 | 41·5 | 27·0 | 12·5 | 58·5 | 16 26·90 | − 2·15 | ......... | +58·51 | 8 17 23·26 |
| | ε Hydræ | 0·9 | 14·3 | 27·7 | 41·2 | 54·5 | 37 27·72 | + 0·50 | +58·49 | +58·52 | 8 38 26·74 |
| | 23 Ursæ Majoris | 7·0 | 36·7 | 7·0 | 36·9 | 6·6 | 18 6·84 | − 0·13 | ......... | +58·54 | 9 19 5·25 |
| | Groombridge 1562 | 54·6 | 10·0 | 25·5 | 40·8 | 56·5 | 27 25·48 | − 1·35 | ......... | +58·55 | 9 28 22·68 |
| | ε Leonis | 27·1 | 41·7 | 56·3 | 11·0 | 25·7 | 35 56·36 | + 0·40 | +58·53 | +58·56 | 9 36 55·32 |
| | 18 Sextantis | 41·1 | 54·5 | 7·9 | 21·3 | 34·8 | 2 7·92 | + 0·58 | ......... | +58·58 | 10 3 7·08 |
| | 35 Leonis | 21·8 | 36·3 | 50·9 | 5·4 | 20·0 | 6 50·88 | + 0·41 | ......... | +58·58 | 10 7 49·87 |
| | 27 Sextantis | 24·9 | 38·2 | 51·6 | 4·8 | 18·1 | 17 51·52 | + 0·57 | ......... | +58·59 | 10 18 50·68 |
| | 37 Ursæ Majoris | 12·4 | 37·7 | 2·6 | 27·4 | 52·2 | 24 2·46 | + 0·01 | ......... | +58·59 | 10 25 1·06 |
| | 42 Leonis Minoris | 37·3 | 52·6 | 8·3 | 24·0 | 39·5 | 36 8·34 | + 0·34 | ......... | +58·59 | 10 37 7·27 |
| | 41 Sextantis | 59·1 | 12·6 | 26·1 | 39·5 | 53·0 | 41 26·06 | + 0·59 | ......... | +58·60 | 10 42 25·25 |
| | 46 Leonis Minoris | 59·7 | 15·9 | 32·0 | 48·2 | 4·5 | 43 32·06 | + 0·35 | ......... | +58·60 | 10 44 31·01 |
| | 54 Leonis | 37·6 | 52·2 | . 7·0 | 21·6 | 36·5 | 46 6·98 | + 0·39 | ......... | +58·61 | 10 47 5·98 |
| | 60 Leonis | 29·0 | 43·0 | 57·1 | 11·3 | 26·0 | 52 57·28 | + 0·41 | ......... | +58·61 | 10 53 56·30 |
| | δ Leonis | 17·2 | 31·5 | 46·0 | 0·2 | 14·5 | 4 45·88 | + 0·41 | +58·63 | +58·61 | 11 5 44·90 |
| | η Virginis | 26·8 | 39·9 | 53·1 | 6·3 | ...... | 10 53·17 | + 0·55 | ......... | +58.65 | 12 11 52·37 |
| | Moon 2 Limb | 23·8 | 37·6 | 51·6 | 5·5 | 19·4 | 36 51·58 | + 0·60 | ......... | +58·67 | 12 37 50·85 |
| | θ Virginis | 23·5 | 36·8 | 50·1 | 3·6 | 16·8 | 0 50·16 | + 0·57 | ......... | +58·68 | 13 1 49·41 |
| | α Ursæ Minoris S.P. | 6·5 | 25·5 | ...... | 4·5 | 19·0 | 0 43·81 | +13·39 | ......... | +58·68 | 13 1 55·88 |
| | α Virginis | 29·1 | 42·6 | 56·1 | 9·8 | 23·2 | 15 56·16 | + 0·60 | +58·72 | +58·69 | 13 16 55·45 |
| Mar. 28 | α Canis Minoris | 36·9 | 50·1 | 3·5 | 16·9 | 30·2 | 30 3·52 | + 0·31 | +59·80 | +59·75 | 7 31 3·58 |
| | β Geminorum | 10·8 | 25·8 | 40·8 | 56·0 | 11·1 | 34 40·90 | + 0·19 | +59·78 | +59·75 | 7 35 40·84 |
| | α Leonis | 32·7 | 46·2 | 59·9 | 13·5 | 27·1 | 58 59·88 | + 0·27 | +59·73 | +59·79 | 9 59 59·94 |
| | A.S.C. 1215 | 0·2 | 13·4 | 26·8 | 40·0 | 53·5 | 2 26·78 | + 0·37 | ......... | +59·79 | 10 3 26·94 |
| | 35 Leonis | 20·7 | 35·1 | 49·8 | 4·4 | 19·0 | 6 49·80 | + 0·21 | ......... | +59·79 | 10 7 49·80 |
| | 31 Leonis Minoris | 13·7 | 30·5 | 47·1 | 4·0 | 20·6 | 17 47·18 | + 0·12 | ......... | +59·79 | 10 18 47·09 |
| | 37 Ursæ Majoris | 11·3 | 36·0 | 1·3 | 26·5 | 51·4 | 24 1·30 | − 0·13 | ......... | +59·80 | 10 25 0·97 |
| | 51 Leonis | 28·1 | 42·1 | 56·3 | 10·4 | 24·5 | 36 56·28 | + 0·23 | ......... | +59·80 | 10 37 56·31 |
| | ω Ursæ Majoris | 18·7 | 37·0 | 55·5 | 14·0 | 32·7 | 43 55·58 | + 0·06 | ......... | +59·80 | 10 44 55·44 |
| | δ Leonis | 16·4 | 30·7 | 45·0 | 59·2 | 13·5 | 4 44·96 | + 0·22 | +59·74 | +59·80 | 11 5 44·98 |
| | 81 Leonis | 57·0 | 10·8 | 24·8 | 38·7 | 52·7 | 16 24·80 | + 0·26 | ......... | +59·80 | 11 17 24·86 |
| | β Leonis | 35·1 | 49·0 | 2·8 | 16·4 | 30·3 | 40 2·72 | + 0·27 | +59·79 | +59·81 | 11 41 2·80 |
| | Mercury 2 Limb | ...... | 20·8 | 34·3 | 47·9 | 1·4 | 49 34·35 | + 0·38 | ......... | +60·00 | 22 50 34·73 |
| Mar. 29 | α Ursæ Minoris | 30·0 | ...... | 6·0 | 23·5 | ...... | 1 5·47 | −10·80 | ......... | +60·03 | 1 1 54·70 |
| | Mars 1 Limb | 45·8 | 59·3 | 13·0 | 26·5 | 40·2 | 59 12·96 | + 0·34 | ......... | +60·05 | 2 0 13·35 |
| | α Orionis | 11·4 | 24·8 | 38·1 | 51·6 | 4·9 | 45 38·16 | + 0·36 | +60·14 | +60·13 | 5 46 38·65 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Mar. 29 | α Canis Majoris | 44·4 | 58·1 | 12·0 | 25·8 | 39·8 | 37 12·02 | + 0·48 | +60·20 | +60·18 | 6 38 12·68 |
| | δ Geminorum | 13·9 | 28·2 | 42·7 | 57·0 | 11·2 | 9 42·60 | + 0·28 | +60·21 | +60·19 | 7 10 43·07 |
| | ε Hydræ | 59·4 | 12·6 | 26·1 | 39·3 | 52·8 | 37 26·04 | + 0·36 | +60·27 | +60·22 | 8 38 26·62 |
| | δ Leonis | 16·1 | 30·1 | 44·3 | 58·7 | 13·0 | 4 44·44 | + 0·28 | +60·19 | +60·28 | 11 5 45·00 |
| | ξ Ursæ Majoris, pre. | 16·1 | 31·6 | 47·5 | 3·2 | 19·0 | 8 47·48 | + 0·22 | ......... | +60·28 | 11 9 47·98 |
| Mar. 30 | α Arietis | 47·4 | 1·8 | 16·3 | 30·7 | 45·1 | 57 16·26 | + 0·25 | +60·71 | +60·67 | 1 58 17·18 |
| | η Tauri | 37·2 | 51·6 | 6·1 | 20·6 | 35·0 | 37 6·10 | + 0·25 | +60·77 | +60·71 | 3 38 7·06 |
| | α Canis Majoris | 43·7 | 57·5 | 11·5 | 25·3 | 39·1 | 37 11·42 | + 0·46 | +60·80 | +60·76 | 6 38 12·64 |
| | ο Ursæ Majoris | 14·0 | 41·6 | 9·0 | 36·5 | 4·0 | 16 9·02 | − 0·15 | ......... | +60·79 | 8 17 9·66 |
| | ε Hydræ | 58·9 | 12·2 | 25·5 | 39·0 | 52·3 | 37 25·58 | + 0·33 | +60·75 | +60·80 | 8 38 26·71 |
| | α Leonis | 31·8 | 45·2 | 58·8 | 12·4 | 26·0 | 58 58·84 | + 0·30 | +60·73 | +60·81 | 9 59 59·95 |
| | A.S.C. 1215 | 59·0 | 12·4 | 25·8 | 39·1 | 52·5 | 2 25·76 | + 0·41 | ......... | +60·81 | 10 3 26·98 |
| | 81 Leonis | 55·6 | 9·8 | 23·8 | 37·8 | 51·7 | 16 23·74 | + 0·29 | ......... | +60·84 | 11 17 24·87 |
| Mar. 31 | Sun 1 Limb | 37·3 | 50·8 | 4·1 | 17·4 | 30·8 | 36 4·08 | + 0·32 | ......... | +61·06 | 0 37 5·46 |
| | Sun 2 Limb | 46·1 | 59·5 | 12·9 | 26·2 | 39·7 | 38 12·88 | + 0·32 | ......... | +61·06 | 0 39 14·26 |
| | α Ursæ Minoris | 28·0 | 44·5 | ...... | 24·0 | 39·5 | 1 4·07 | − 9·91 | ......... | +61·07 | 1 1 55·23 |
| | α Arietis | 47·2 | 1·6 | 15·8 | 30·2 | 44·6 | 57 15·88 | + 0·23 | +61·10 | +61·09 | 1 58 17·20 |
| | Mars 1 Limb | 19·7 | 33·3 | 46·8 | 0·5 | 14·1 | 4 46·88 | + 0·28 | ......... | +61·09 | 2 5 48·25 |
| | η Tauri | 36·7 | 51·1 | 5·6 | 20·2 | 34·8 | 37 5·68 | + 0·23 | +61·20 | +61·13 | 3 38 7·04 |
| | $\alpha^2$ Geminorum | 0·1 | 15·8 | 31·6 | 47·2 | 3·0 | 23 31·54 | + 0·18 | +61·35 | +61·25 | 7 24 32·97 |
| | ε Hydræ | 58·1 | 11·8 | 25·1 | 38·5 | 52·0 | 37 25·10 | + 0·30 | +61·24 | +61·27 | 8 38 26·67 |
| | α Leonis | 31·2 | 44·8 | 58·5 | 12·1 | 25·6 | 58 58·44 | + 0·27 | +61·15 | +61·30 | 10 0 0·01 |
| | 36 Ursæ Majoris | 43·2 | 7·4 | 31·6 | 55·7 | 20·0 | 19 31·58 | − 0·07 | ......... | +61·30 | 10 20 32·81 |
| | ν Ursæ Majoris | 25·8 | 41·8 | 57·8 | 13·9 | 30·0 | 8 57·86 | + 0·17 | ......... | +61·32 | 11 9 59·35 |
| April 2 | Mars 1 Limb | 54·5 | 8·1 | 21·8 | 35·4 | 49·1 | 10 21·78 | + 0·41 | ......... | +62·02 | 2 11 24·21 |
| | μ Geminorum | 54·6 | 8·9 | 23·2 | 37·6 | 52·0 | 12 23·26 | + 0·36 | +62·16 | +62·16 | 6 13 25·78 |
| | δ Ursæ Minoris S.P. | 35·5 | 19·0 | 2·5 | 45·0 | 28·0 | 22 2·00 | + 5·62 | ......... | +62·17 | 6 23 9·79 |
| | α Canis Majoris | 42·4 | 55·9 | 9·8 | 23·6 | 37·6 | 37 9·86 | + 0·56 | +62·20 | +62·18 | 6 38 12·60 |
| | 23 Ursæ Majoris | 2·8 | 32·6 | 2·8 | 32·8 | 2·8 | 18 2·76 | − 0·13 | ......... | +62·25 | 9 19 4·88 |
| | ε Leonis | 23·5 | 38·0 | 52·5 | 7·0 | 21·6 | 35 52·52 | + 0·35 | +62·35 | +62·27 | 9 36 55·14 |
| | (a) α Leonis | 30·0 | 43·6 | 57·1 | 10·8 | 24·3 | 59 57·16 | + 0·41 | + 2·27 | + 2·29 | 9 59 59·86 |
| | 35 Leonis | 18·0 | 32·5 | 47·1 | 1·8 | 16·4 | 7 47·16 | + 0·35 | ......... | + 2·29 | 10 7 49·80 |
| | 31 Leonis Minoris | 11·1 | 27·6 | 44·4 | 1·2 | 18·0 | 18 44·46 | + 0·25 | ......... | + 2·29 | 10 18 47·00 |
| | 51 Leonis | 25·6 | 39·7 | 53·7 | 7·8 | 22·0 | 37 53·76 | + 0·37 | ......... | + 2·30 | 10 37 56·43 |
| | ω Ursæ Majoris | 16·1 | 34·4 | 52·8 | 11·3 | 29·8 | 44 52·88 | + 0·18 | ......... | + 2·31 | 10 44 55·37 |
| | 50 Leonis Minoris | 30·3 | 15·0 | 0·0 | 14·8 | 29·5 | 47 59·92 | + 0·33 | ......... | + 2·31 | 10 48 2·56 |
| | δ Leonis | 13·8 | 27·9 | 42·1 | 56·4 | 10·8 | 5 42·20 | + 0·37 | + 2·33 | + 2·33 | 11 5 44·90 |
| | ν Ursæ Majoris | 24·7 | 40·3 | 56·7 | 12·3 | 28·8 | 9 56·56 | + 0·28 | ......... | + 2·33 | 11 9 59·17 |
| | δ Hydræ & Crateris | 59·1 | 13·0 | 26·6 | 40·1 | 53·8 | 11 26·52 | + 0·54 | + 2·39 | + 2·33 | 11 11 29·39 |
| | γ Hydræ & Crateris | 31·9 | 45·7 | 59·6 | 13·4 | 27·3 | 16 59·58 | + 0·56 | ......... | + 2·33 | 11 17 2·47 |
| | 90 Leonis, following | 1·2 | 15·0 | 29·1 | 43·0 | 57·0 | 26 29·06 | + 0·38 | ......... | + 2·34 | 11 26 31·78 |
| | β Leonis | 32·6 | 46·2 | 0·2 | 14·0 | 27·8 | 41 0·16 | + 0·40 | + 2·23 | + 2·35 | 11 41 2·91 |
| | ζ Aquilæ | 40·1 | 53·7 | 7·5 | 21·1 | 34·7 | 58 7·42 | + 0·40 | + 2·57 | + 2·61 | 18 58 10·43 |
| | Moon 2 Limb | ...... | ...... | 55·3 | 10·5 | 25·0 | 22 55·33 | + 0·60 | ......... | + 2·64 | 19 22 58·57 |
| April 3 | α Aquilæ | 35·2 | 48·6 | 2·0 | 15·5 | 29·0 | 43 2·06 | + 0·40 | + 3·35 | + 3·36 | 19 43 5·82 |
| | β Aquilæ | 3·9 | 17·2 | 30·7 | 44·0 | 57·3 | 47 30·62 | + 0·41 | + 3·39 | + 3·36 | 19 47 34·39 |
| | (b) Moon 2 Limb | 29·3 | 43·6 | 58·2 | 12·7 | 27·3 | 13 58·22 | + 0·56 | ......... | + 3·38 | 20 14 2·16 |
| | α Cygni | 22·2 | 40·9 | 59·6 | 18·3 | 37·0 | 35 59·60 | + 0·16 | ......... | + 3·39 | 20 36 3·15 |
| April 4 | Sun 1 Limb | 8·2 | 21·6 | 34·8 | 48·2 | 1·8 | 51 34·92 | + 0·43 | ......... | + 3·51 | 0 51 38·86 |
| | Venus 1 Limb | 50·3 | 4·0 | 17·6 | 31·0 | 44·4 | 22 17·46 | + 0·42 | ......... | + 3·52 | 1 22 21·40 |
| | μ Geminorum | 53·1 | 7·5 | 21·8 | 36·1 | 50·6 | 13 21·82 | + 0·32 | + 3·61 | + 3·63 | 6 13 25·77 |
| | α Canis Majoris | 40·5 | 54·4 | 8·4 | 22·2 | 36·1 | 38 8·32 | + 0·56 | + 3·71 | + 3·64 | 6 38 12·52 |
| | ο Ursæ Majoris | 10·4 | 37·8 | 5·4 | 33·0 | 0·8 | 17 5·48 | − 0·15 | ......... | + 3·68 | 8 17 9·01 |

(a) Clock put forward one minute. (b) Very faint.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| April 4 | ε Hydræ | 55·6 | 9·0 | 22·4 | 35·8 | 49·2 | 38 22·40 | + 0·42 | + 3·77 | + 3·69 | 8 38 26·51 |
| | ι Leonis | 21·9 | 36·6 | 51·1 | 5·6 | 20·4 | 36 51·12 | + 0·31 | + 3·76 | + 3·71 | 9 36 55·14 |
| | α Leonis | 28·5 | 42·1 | 55·7 | 9·3 | 23·0 | 59 55·72 | + 0·38 | + 3·72 | + 3·73 | 9 59 59·83 |
| | ζ Leonis | 23·1 | 37·7 | 52·5 | 7·0 | 21·6 | 7 52·38 | + 0·32 | ……… | + 3·73 | 10 7 56·43 |
| | 36 Ursæ Majoris | 40·6 | 4·8 | 29·1 | 53·2 | 17·5 | 20 29·04 | − 0·05 | ……… | + 3·73 | 10 20 32·72 |
| | 51 Leonis | 24·1 | 38·0 | 52·2 | 6·3 | 20·4 | 37 52·20 | + 0·34 | ……… | + 3·74 | 10 37 56·28 |
| | ω Ursæ Majoris | 14·6 | 32·8 | 51·5 | 10·0 | 28·4 | 44 51·46 | + 0·13 | ……… | + 3·74 | 10 44 55·33 |
| | 50 Leonis Minoris | 28·8 | 43·5 | 58·5 | 13·3 | 28·1 | 47 58·44 | + 0·30 | ……… | + 3·75 | 10 48 2·49 |
| | ξ Ursæ Majoris, pre. | 12·3 | 28·1 | 43·8 | 59·4 | 15·2 | 9 43·76 | + 0·26 | ……… | + 3·77 | 11 9 47·79 |
| | γ Hydræ & Crateris | 30·4 | 44·0 | 57·9 | 12·1 | 25·8 | 16 58·04 | + 0·56 | ……… | + 3·77 | 11 17 2·37 |
| | 90 Leonis, following | 59·8 | 13·6 | 27·8 | 41·7 | 55·7 | 26 27·72 | + 0·36 | ……… | + 3·78 | 11 26 31·86 |
| | (a) Moon 2 Limb | 44·0 | 58·2 | 12·5 | 26·6 | 40·6 | 2 12·38 | + 0·55 | ……… | + 4·08 | 21 2 17·01 |
| | ζ Cygni | 38·5 | 53·8 | 9·0 | 24·3 | 39·6 | 6 9·04 | + 0·28 | + 4·16 | + 4·08 | 21 6 13·40 |
| | ε Pegasi | 55·0 | 8·4 | 21·8 | 35·2 | 48·7 | 36 21·82 | + 0·41 | + 4·15 | + 4·10 | 21 36 26·33 |
| | Mercury 2 Limb | 20·4 | 33·7 | 47·1 | 0·5 | 13·8 | 19 47·10 | + 0·50 | ……… | + 4·17 | 23 19 51·77 |
| April 5 | Sun 1 Limb | …… | 59·6 | 13·0 | 26·3 | 39·8 | 55 12·97 | + 0·43 | ……… | + 4·23 | 0 55 17·63 |
| | Sun 2 Limb | 55·2 | 8·6 | 21·9 | 35·2 | 48·7 | 57 21·92 | + 0·43 | ……… | + 4·23 | 0 57 26·58 |
| | α Ursæ Minoris | 29·0 | 46·5 | 3·0 | 22·0 | 40·0 | 2 4·10 | −13·13 | ……… | + 4·23 | 1 1 55·20 |
| | Venus 1 Limb | 25·8 | 39·2 | 52·8 | 6·2 | 19·7 | 26 52·74 | + 0·42 | ……… | + 4·24 | 1 26 57·40 |
| | α Arietis | 43·8 | 58·2 | 12·6 | 27·0 | 41·5 | 58 12·62 | + 0·31 | + 4·28 | + 4·27 | 1 58 17·20 |
| | Mars 1 Limb | 17·1 | 30·8 | 44·5 | 58·1 | …… | 20 44·49 | + 0·37 | ……… | + 4·29 | 2 20 49·15 |
| | η Tauri | 33·3 | 48·8 | 2·4 | 17·0 | 31·5 | 38 2·60 | + 0·31 | + 4·16 | + 4·31 | 3 38 7·22 |
| | α Tauri | 20·4 | 34·1 | 47·9 | 1·7 | 15·7 | 26 47·96 | + 0·36 | + 4·40 | + 4·34 | 4 26 52·66 |
| | ο Ursæ Majoris | 9·5 | 36·9 | 4·6 | 32·1 | 59·8 | 17 4·58 | − 0·19 | ……… | + 4·43 | 8 17 8·82 |
| | 23 Ursæ Majoris | 0·7 | 30·6 | 0·6 | 30·8 | 0·8 | 19 0·70 | − 0·27 | ……… | + 4·47 | 9 19 4·90 |
| | ε Leonis | 21·2 | 35·9 | 50·6 | 5·0 | 19·4 | 36 50·42 | + 0·30 | + 4·46 | + 4·48 | 9 36 55·20 |
| | α Leonis | 27·7 | 41·4 | 55·0 | 8·7 | 22·2 | 59 55·00 | + 0·38 | + 4·43 | + 4·50 | 9 59 59·88 |
| | Piazzi X. 22 | 34·5 | 29·0 | 24·0 | 19·2 | 14·5 | 11 24·24 | − 2·71 | ……… | + 4·50 | 10 11 26·03 |
| | 36 Ursæ Majoris | 39·8 | 3·8 | 28·2 | 52·6 | 16·8 | 20 28·24 | − 0·09 | ……… | + 4·51 | 10 20 32·66 |
| | 50 Leonis Minoris | 28·1 | 42·9 | 57·8 | 12·7 | 27·6 | 47 57·82 | + 0·29 | ……… | + 4·52 | 10 48 2·63 |
| | ξ Ursæ Majoris, pre. | 11·6 | 27·0 | 42·8 | 58·8 | 14·5 | 9 42·94 | + 0·25 | ……… | + 4·52 | 11 9 47·71 |
| | γ Hydræ & Crateris | 29·6 | 43·5 | 57·4 | 11·2 | 25·2 | 16 57·38 | + 0·57 | ……… | + 4·53 | 11 17 2·48 |
| | 90 Leonis, following | 59·1 | 13·0 | 27·0 | 41·0 | 54·9 | 26 27·00 | + 0·35 | ……… | + 4·54 | 11 26 31·89 |
| April 6 | Sun 1 Limb | 24·3 | 37·7 | 51·1 | 4·5 | 18·0 | 58 51·12 | + 0·33 | ……… | + 4·96 | 0 58 56·41 |
| | Sun 2 Limb | 33·3 | 46·6 | 0·2 | 13·6 | 27·1 | 1 0·16 | + 0·33 | ……… | + 4·96 | 1 1 5·45 |
| | α Ursæ Minoris | 26·5 | 43·0 | …… | 19·0 | 38·5 | 2 1·82 | −11·33 | ……… | + 4·96 | 1 1 55·45 |
| | Venus 1 Limb | 1·9 | 15·3 | 28·8 | 42·3 | 55·8 | 31 28·82 | + 0·32 | ……… | + 4·98 | 1 31 34·12 |
| | α Arietis | 43·2 | 57·6 | 12·0 | 26·3 | 40·8 | 58 11·98 | + 0·23 | + 5·00 | + 5·00 | 1 58 17·21 |
| | Mars 1 Limb | 5·2 | 18·7 | 32·5 | 46·1 | 59·8 | 22 32·46 | + 0·29 | ……… | + 5·02 | 2 22 37·77 |
| | β Tauri | 44·4 | 59·5 | 14·4 | 29·6 | 44·8 | 16 14·54 | + 0·20 | + 5·16 | + 5·14 | 5 16 19·88 |
| | $\alpha^2$ Geminorum | 56·2 | 11·8 | 27·5 | 43·3 | 59·0 | 24 27·56 | + 0·18 | + 5·21 | + 5·22 | 7 24 32·96 |
| | α Canis Minoris | 31·3 | 44·5 | 58·0 | 11·4 | 24·6 | 30 57·96 | + 0·33 | + 5·23 | + 5·23 | 7 31 3·52 |
| | β Geminorum | 5·0 | 20·0 | 35·2 | 50·2 | 5·4 | 35 35·16 | + 0·20 | + 5·33 | + 5·23 | 7 35 40·59 |
| April 7 | Mercury 2 Limb | 41·5 | 55·1 | 8·3 | 21·5 | 35·0 | 34 8·28 | + 0·41 | ……… | + 6·56 | 23 34 15·25 |
| | α Ursæ Minoris | 22·5 | 40·5 | 0·0 | 17·0 | 35·5 | 1 59·10 | −11·43 | ……… | + 6·59 | 1 1 54·26 |
| April 8 | Sun 1 Limb | 41·2 | 54·6 | 8·1 | 21·7 | 34·9 | 6 8·10 | + 0·37 | ……… | + 6·59 | 1 6 15·06 |
| | Sun 2 Limb | 50·2 | 3·7 | 17·2 | 30·6 | 44·0 | 8 17·14 | + 0·37 | ……… | + 6·59 | 1 8 24·10 |
| | Venus 1 Limb | 15·1 | 28·8 | 42·4 | 55·9 | 9·7 | 40 42·38 | + 0·36 | ……… | + 6·60 | 1 40 49·34 |
| | α Arietis | 41·6 | 55·8 | 10·4 | 24·7 | 39·2 | 58 10·34 | + 0·27 | + 6·61 | + 6·61 | 1 58 17·22 |
| | Mars 1 Limb | 41·3 | 54·8 | 9·0 | 22·7 | 36·4 | 28 8·84 | + 0·32 | ……… | + 6·62 | 2 28 15·78 |

(a) Very faint.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| | | | | | INSTRUMENT REVERSED. | | | | | | |
| Apr. 8 | α Tauri | 18·1 | 31·8 | 45·6 | 59·6 | 13·4 | 26 45·70 | + 0·33 | + 6·65 | + 6·64 | 4 26 52·67 |
| | μ Geminorum | 50·1 | 4·5 | 18·8 | 33·2 | 47·6 | 13 18·84 | + 0·28 | + 6·57 | + 6·67 | 6 13 25·79 |
| | δ Ursæ Minoris S.P. | 33·5 | 16·0 | 59·5 | 42·5 | 26·0 | 22 59·50 | + 5·85 | ......... | + 6·68 | 6 23 12·03 |
| | β Geminorum | 3·4 | 18·5 | 33·6 | 48·8 | 3·8 | 35 33·62 | + 0·25 | + 6·78 | + 6·71 | 6 35 40·58 |
| | ο Ursæ Majoris | 7·1 | 34·5 | 2·1 | 29·8 | 57·5 | 17 2·20 | − 0·16 | ......... | + 6·73 | 8 17 8·77 |
| | α Hydræ | 17·7 | 31·1 | 44·6 | 57·8 | 11·2 | 19 44·48 | + 0·46 | + 6·64 | + 6·76 | 9 19 51·70 |
| | ε Leonis | 18·8 | 33·4 | 48·0 | 2·7 | 17·3 | 36 48·04 | + 0·27 | + 6·83 | + 6·77 | 9 36 55·08 |
| | Piazzi X. 22 | 30·5 | 25·5 | 20·3 | 15·5 | 10·5 | 11 20·46 | − 2·33 | ......... | + 6·79 | 10 11 24·92 |
| | ν Ursæ Majoris | 20·1 | 36·0 | 52·0 | 8·0 | 24·1 | 9 52·04 | + 0·21 | ......... | + 6·83 | 11 9 59·08 |
| | 81 Leonis | 49·9 | 3·8 | 17·5 | 31·6 | 45·5 | 17 17·76 | + 0·32 | ......... | + 6·83 | 11 17 24·81 |
| | α Ursæ Minoris | 22·0 | 37·5 | 57·0 | ...... | 33·0 | 1 57·21 | − 11·65 | ......... | + 7·48 | 1 1 53·04 |
| Apr. 9 | Sun 1 Limb | 20·0 | 33·5 | 46·8 | 0·2 | 13·7 | 9 46·84 | + 0·35 | ......... | + 7·48 | 1 9 54·67 |
| | Sun 2 Limb | 29·1 | 42·6 | 56·1 | 9·4 | 22·8 | 11 56·00 | + 0·35 | ......... | + 7·48 | 1 12 3·83 |
| | Venus 1 Limb | 53·2 | 6·7 | 20·1 | 33·7 | 47·3 | 45 20·20 | + 0·33 | ......... | + 7·50 | 1 45 28·03 |
| | Mars 1 Limb | ...... | 43·5 | 57·3 | 11·1 | 24·8 | 30 57·29 | + 0·31 | ......... | + 7·52 | 2 31 5·12 |
| | η Tauri | 30·3 | 44·8 | 59·3 | 13·8 | 28·3 | 37 59·30 | + 0·25 | + 7·49 | + 7·53 | 3 38 7·08 |
| | α Tauri | 17·3 | 30·9 | 44·7 | 58·7 | 12·6 | 26 44·84 | + 0·31 | + 7·52 | + 7·55 | 4 26 52·70 |
| | δ Ursæ Minoris S.P. | 33·0 | 15·5 | 59·5 | 42·0 | 25·0 | 22 59·00 | + 5·67 | ......... | + 7·59 | 6 24 12·26 |
| | α Canis Majoris | 36·8 | 50·5 | 4·4 | 18·4 | 32·2 | 38 4·46 | + 0·48 | + 7·56 | + 7·60 | 6 38 12·54 |
| | ο Ursæ Majoris | 6·2 | 33·6 | 1·4 | 29·2 | 56·4 | 17 1·36 | − 0·18 | ......... | + 7·65 | 8 17 8·83 |
| | A.S.C. 1359 | 23·5 | 38·8 | 54·0 | 9·0 | 24·2 | 27 53·90 | + 0·22 | ......... | + 7·75 | 11 28 1·87 |
| | β Leonis | 27·2 | 41·0 | 54·7 | 8·5 | 22·3 | 40 54·74 | + 0·31 | + 7·72 | + 7·76 | 11 41 2·81 |
| | Groombridge 1858 | 27·5 | 9·0 | 53·5 | 35·5 | 19·0 | 3 52·90 | − 2·03 | ......... | + 7·78 | 12 3 58·65 |
| | 12 Comæ Berenices | 58·6 | 13·8 | 28·8 | 43·5 | 58·3 | 14 28·60 | + 0·23 | ......... | + 7·78 | 12 14 36·61 |
| Apr. 10 | Mercury 2 Limb | 57·4 | 10·6 | 24·2 | 37·5 | 50·8 | 49 24·10 | + 0·40 | ......... | + 8·86 | 23 49 33·36 |
| | α Andromedæ | 34·8 | 50·0 | 5·1 | 20·2 | 35·4 | 0 5·10 | + 0·21 | + 8·85 | + 8·87 | 0 0 14·18 |
| | γ Pegasi | 30·4 | 43·8 | 57·5 | 11·3 | 25·0 | 4 57·60 | + 0·30 | + 8·90 | + 8·87 | 0 5 6·77 |
| | α Ursæ Minoris | 22·5 | 41·0 | 57·0 | 16·5 | ...... | 1 58·39 | − 11·47 | ......... | + 8·90 | 1 1 55·82 |
| Apr. 11 | Sun 1 Limb | 38·2 | 51·6 | 5·0 | 18·6 | 32·0 | 17 5·08 | + 0·28 | ......... | + 8·91 | 1 17 14·27 |
| | Sun 2 Limb | 47·7 | 1·1 | 14·6 | 28·0 | 41·5 | 19 14·58 | + 0·28 | ......... | + 8·91 | 1 19 23·77 |
| | Mars 1 Limb | 7·3 | 20·8 | 34·5 | ...... | 2·3 | 36 34·69 | + 0·24 | ......... | + 8·95 | 2 36 43·88 |
| | α Tauri | 15·8 | 29·5 | 43·3 | 57·2 | 11·0 | 26 43·36 | + 0·24 | + 9·05 | + 9·03 | 4 26 52·63 |
| | δ Ursæ Minoris S.P. | 32·5 | 15·0 | 59·0 | 41·5 | 25·0 | 22 58·60 | + 4·22 | ......... | + 9·08 | 6 23 11·90 |
| | α Canis Majoris | 35·2 | 49·1 | 3·0 | 16·8 | 30·8 | 38 2·98 | + 0·40 | + 9·08 | + 9·08 | 6 38 12·46 |
| | $\alpha^2$ Geminorum | 52·2 | 8·0 | 23·6 | 39·4 | 54·9 | 24 23·62 | + 0·15 | + 9·09 | + 9·09 | 7 24 32·86 |
| | α Canis Minoris | 27·4 | 40·7 | 54·0 | 7·4 | 20·7 | 30 54·04 | + 0·29 | + 9·11 | + 9·09 | 7 31 3·42 |
| | β Geminorum | 1·1 | 16·2 | 31·4 | 46·5 | 1·6 | 35 31·36 | + 0·17 | + 9·07 | + 9·10 | 7 35 40·63 |
| | Groombridge 1782 | 20·0 | 55·5 | 30·5 | 6·2 | 41·0 | 20 30·64 | − 1·75 | ......... | + 9·20 | 11 20 38·09 |
| | A.S.C. 1359 | 21·8 | 37·0 | 52·1 | 7·3 | 22·4 | 27 52·12 | + 0·16 | ......... | + 9·20 | 11 28 1·48 |
| | γ Corvi | 6·6 | 20·5 | 34·4 | 48·4 | 2·2 | 7 34·42 | + 0·40 | ......... | + 9·22 | 12 7 44·04 |
| | 12 Comæ Berenices | 57·4 | 12·2 | 27·0 | 42·0 | 56·8 | 14 27·08 | + 0·18 | ......... | + 9·22 | 12 14 36·48 |
| | 13 Comæ Berenices | 46·4 | 1·4 | 16·2 | 31·1 | 46·0 | 16 16·22 | + 0·18 | ......... | + 9·23 | 12 16 25·63 |
| | 14 Comæ Berenices | 53·1 | 8·2 | 23·3 | 38·3 | 53·4 | 18 23·26 | + 0·17 | ......... | + 9·23 | 12 18 32·66 |
| | η Corvi | 21·7 | 35·3 | 49·1 | 3·0 | 16·8 | 23 49·18 | + 0·39 | ......... | + 9·23 | 12 23 58·80 |
| | 23 Comæ Berenices | 22·9 | 37·2 | 51·8 | 6·5 | 20·8 | 26 51·84 | + 0·19 | ......... | + 9·24 | 12 27 1·27 |
| | 25 Comæ Berenices | 28·3 | 42·3 | 56·2 | 10·2 | 24·2 | 28 56·24 | + 0·23 | ......... | + 9·24 | 12 29 5·71 |
| | 33 Virginis | 47·4 | 0·8 | 14·2 | 27·7 | 41·2 | 38 14·26 | + 0·26 | ......... | + 9·24 | 12 38 23·76 |
| | α Ursæ Minoris | ...... | ...... | 56·5 | 15·0 | 32·0 | 1 56·91 | − 10·59 | ......... | + 9·70 | 1 1 56·02 |
| Apr. 12 | Sun 1 Limb | 18·0 | 31·4 | 44·9 | 58·3 | 11·7 | 20 44·86 | + 0·32 | ......... | + 9·71 | 1 20 54·89 |
| | Sun 2 Limb | 27·3 | 40·7 | 54·2 | 7·7 | 21·2 | 22 54·22 | + 0·32 | ......... | + 9·71 | 1 23 4·25 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 12 | Venus 1 Limb········ | 50·9 | 4·5 | 18·1 | 31·7 | 45·3 | 59 18·10 | + 0·31 | ········· | + 9·73 | 1 59 28·14 |
| | Mars 1 Limb·········· | 56·4 | 10·1 | 23·8 | 37·7 | 51·6 | 39 23·92 | + 0·29 | ········· | + 9·76 | 2 39 33·97 |
| | α Tauri················· | 14·8 | 28·8 | 42·5 | 56·4 | 10·2 | 26 42·54 | + 0·28 | + 9·82 | + 9·83 | 4 26 52·65 |
| | δ Ursæ Minoris S.P. | ······ | 14·0 | 59·0 | 41·0 | 25·0 | 22 58·07 | + 5·13 | ········· | + 9·90 | 6 23 13·10 |
| | $\alpha^2$ Geminorum········ | 51·2 | 6·8 | 22·5 | 38·4 | 54·0 | 24 22·58 | + 0·19 | +10·07 | + 9·98 | 7 24 32·75 |
| | α Canis Minoris ······ | 26·5 | 39·8 | 53·1 | 6·5 | 19·8 | 30 53·14 | + 0·33 | + 9·95 | + 9·99 | 7 31 3·46 |
| | α Leonis················ | 22·0 | 35·6 | 49·3 | 3·0 | 16·4 | 59 49·26 | + 0·30 | +10·18 | +10·13 | 9 59 59·69 |
| | Piazzi X. 22··········· | 27·0 | 21·8 | 16·5 | 12·0 | 6·0 | 11 16·66 | − 2·06 | ········· | +10·13 | 10 11 24·73 |
| | A.S.C. 1359 ··········· | 21·0 | 36·0 | 51·0 | 6·7 | 21·6 | 27 51·26 | + 0·21 | ········· | +10·18 | 11 28 1·65 |
| | γ Corvi················· | 5·9 | 19·7 | 33·7 | 47·5 | 1·2 | 7 33·60 | + 0·44 | ········· | +10·21 | 12 7 44·25 |
| | 12 Comæ Berenices | 56·6 | 11·3 | 26·0 | 41·0 | 55·8 | 14 26·14 | + 0·22 | ········· | +10·22 | 12 14 36·58 |
| | 13 Comæ Berenices | 45·5 | 0·4 | 15·4 | 30·2 | 45·0 | 16 15·30 | + 0·22 | ········· | +10·22 | 12 16 25·74 |
| | 14 Comæ Berenices | 52·1 | 7·2 | 22·2 | 37·4 | 52·4 | 18 22·26 | + 0·21 | ········· | +10·22 | 12 18 32·69 |
| | η Corvi ················ | 21·0 | 34·6 | 48·3 | 2·2 | 16·0 | 23 48·42 | + 0·43 | ········· | +10·23 | 12 23 59·08 |
| | 23 Comæ Berenices | 22·0 | 36·6 | 51·0 | 5·6 | 20·1 | 26 51·06 | + 0·24 | ········· | +10·23 | 12 27 1·53 |
| | 33 Virginis············ | 46·5 | 59·8 | 13·5 | 27·0 | 40·5 | 38 13·46 | + 0·31 | ········· | +10·24 | 12 38 24·01 |
| | α Ursæ Minoris······· | ······ | 39·5 | 55·5 | 14·5 | 32·0 | 1 56·67 | −10·24 | ········· | +10·73 | 1 1 57·16 |
| Apr. 13 | Sun 1 Limb··········· | 57·5 | 11·0 | 24·4 | 38·0 | 51·5 | 24 24·48 | + 0·40 | ········· | +10·74 | 1 24 35·62 |
| | Sun 2 Limb··········· | 7·2 | 20·5 | 33·9 | 47·4 | 0·8 | 26 33·96 | + 0·40 | ········· | +10·74 | 1 26 45·10 |
| | μ Geminorum········· | 45·7 | 0·0 | 14·5 | 28·8 | 43·3 | 13 14·46 | + 0·31 | +10·84 | +10·84 | 6 13 25·61 |
| | $\alpha^2$ Geminorum········ | 50·2 | 5·8 | 21·5 | 37·3 | 53·0 | 24 21·56 | + 0·25 | +11·01 | +10·89 | 7 24 32·70 |
| | α Canis Minoris ······ | 25·4 | 38·7 | 52·1 | 5·5 | 18·8 | 30 52·10 | + 0·41 | +10·90 | +10·90 | 7 31 3·41 |
| | β Geminorum········· | 59·3 | 14·3 | 29·4 | 44·5 | 59·5 | 35 29·40 | + 0·28 | +10·89 | +10·90 | 7 35 40·58 |
| | Piazzi X. 22··········· | 26·5 | 21·4 | 16·0 | 11·0 | 5·8 | 11 16·14 | − 2·27 | ········· | +11·02 | 10 11 24·89 |
| | δ Leonis ················ | 5·0 | 19·2 | 33·4 | 47·7 | 2·0 | 5 33·46 | + 0·32 | +11·05 | +11·06 | 11 5 44·84 |
| Apr. 15 | α Canis Majoris······· | 31·5 | 45·4 | 59·2 | 13·0 | 26·9 | 37 59·20 | + 0·58 | +12·61 | +12·64 | 6 38 12·42 |
| | δ Geminorum ········· | 1·1 | 15·5 | 29·8 | 44·2 | 58·5 | 10 29·82 | + 0·34 | +12·65 | +12·66 | 7 10 42·82 |
| | $\alpha^2$ Geminorum········ | 48·3 | 4·0 | 19·8 | 35·5 | 51·2 | 24 19·76 | + 0·27 | +12·76 | +12·67 | 7 24 32·70 |
| | α Canis Minoris ······ | 23·7 | 37·0 | 50·3 | 3·7 | 17·0 | 30 50·34 | + 0·44 | +12·60 | +12·67 | 7 31 3·45 |
| | β Geminorum········· | 57·2 | 12·3 | 27·5 | 42·6 | 57·7 | 35 27·46 | + 0·30 | +12·77 | +12·68 | 7 35 40·44 |
| | Mercury 2 Limb ····· | 14·7 | 28·1 | 41·5 | 54·8 | 8·2 | 16 41·46 | + 0·49 | ········· | +13·40 | 0 16 55·35 |
| | α Ursæ Minoris ······ | 19·0 | 37·0 | 55·0 | 14·0 | 31·5 | 1 55·30 | −11·22 | ········· | +13·44 | 1 1 57·52 |
| Apr. 16 | Sun 1 Limb··········· | 58·5 | 12·1 | 25·7 | 39·3 | 52·7 | 35 25·66 | + 0·40 | ········· | +13·46 | 1 35 39·52 |
| | Sun 2 Limb··········· | 8·4 | 22·0 | 35·4 | 48·8 | 2·5 | 37 35·42 | + 0·40 | ········· | +13·46 | 1 37 49·28 |
| | Venus 1 Limb········ | 38·6 | 52·2 | 5·8 | 19·7 | 33·2 | 18 5·90 | + 0·38 | ········· | +13·49 | 2 18 19·77 |
| | Mars 1 Limb·········· | 13·6 | 27·3 | 41·1 | 55·0 | 9·0 | 50 41·20 | + 0·36 | ········· | +13·52 | 2 50 55·08 |
| | β Tauri················· | 35·5 | 50·6 | 5·6 | 20·8 | 36·0 | 16 5·70 | + 0·27 | +13·79 | +13·63 | 5 16 19·60 |
| | 136 Tauri·············· | 41·5 | 56·5 | 11·4 | 26·5 | 41·5 | 43 11·48 | + 0·27 | ········· | +13·66 | 5 43 25·41 |
| | α Orionis·············· | 57·4 | 11·0 | 24·3 | 37·7 | 51·1 | 46 24·30 | + 0·41 | +13·69 | +13·66 | 5 46 38·37 |
| | μ Geminorum········· | 42·8 | 57·2 | 11·5 | 26·0 | 40·4 | 13 11·58 | + 0·31 | +13·67 | +13·68 | 6 13 25·57 |
| | δ Ursæ Minoris S.P. | 28·5 | 11·0 | 55·5 | ······ | 21·0 | 22 54·72 | + 6·26 | ········· | +13·69 | 6 23 14·67 |
| | Moon 1 Limb········· | 32·6 | 47·7 | 2·7 | 17·8 | 32·8 | 26 2·72 | + 0·29 | ········· | +13·70 | 6 26 16·71 |
| | α Canis Majoris ······ | 30·6 | 44·3 | 58·2 | 12·2 | 25·8 | 37 58·22 | + 0·55 | +13·60 | +13·71 | 6 38 12·48 |
| | ζ Geminorum ········· | 3·6 | 17·6 | 31·8 | 46·0 | 0·2 | 54 31·84 | + 0·25 | ········· | +13·72 | 6 54 45·81 |
| | δ Geminorum ········· | 0·1 | 14·4 | 28·8 | 43·2 | 57·5 | 10 28·80 | + 0·31 | +13·68 | +13·74 | 7 10 42·85 |
| | δ Leonis ················ | 2·0 | 16·2 | 30·4 | 44·7 | 58·8 | 5 30·42 | + 0·32 | +14·07 | +13·94 | 11 5 44·68 |
| | Groombridge 1782··· | 14·5 | 50·0 | 25·0 | 1·0 | 36·5 | 20 25·40 | − 2·00 | ········· | +13·95 | 11 20 37·35 |
| | β Leonis················ | 20·9 | 34·7 | 48·4 | 2·2 | 16·0 | 40 48·44 | + 0·36 | +13·94 | +13·97 | 11 41 2·77 |
| | γ Corvi················· | 2·0 | 16·0 | 29·8 | 43·8 | 57·6 | 7 29·84 | + 0·55 | ········· | +13·99 | 12 7 44·38 |
| | 13 Comæ Berenices | 41·8 | 56·7 | 11·6 | 26·5 | 41·4 | 16 11·60 | + 0·28 | ········· | +13·99 | 12 16 25·87 |
| | 15 Comæ Berenices | 22·0 | 37·2 | 52·4 | 7·7 | 23·0 | 18 52·46 | + 0·27 | ········· | +14·00 | 12 19 6·73 |
| | η Corvi················· | 17·0 | 30·8 | 44·7 | 58·6 | 12·3 | 23 44·68 | + 0·54 | ········· | +14·00 | 12 23 59·22 |
| | 23 Comæ Berenices | 18·5 | 32·9 | 47·4 | 1·7 | 16·1 | 26 47·32 | + 0·30 | ········· | +14·01 | 12 27 1·63 |
| | 25 Comæ Berenices | 23·7 | 37·8 | 51·5 | 5·7 | 19·7 | 28 51·68 | + 0·34 | ········· | +14·01 | 12 29 6·03 |
| | 33 Virginis············ | 42·6 | 56·1 | 9·6 | 23·1 | 36·6 | 38 9·60 | + 0·40 | ········· | +14·01 | 12 38 24·01 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 16 | 41 Virginis | 15·5 | 29·2 | 43·0 | 56·4 | 10·0 | 45 42·82 | + 0·36 | ......... | +14·02 | 12 45 57·20 |
| | 39 Comæ Berenices | 59·4 | 13·6 | 27·9 | 42·2 | 56·6 | 58 27·94 | + 0·31 | ......... | +14·02 | 12 58 42·27 |
| | α Ursæ Minoris S.P. | ...... | 12·0 | 30·0 | 47·5 | ...... | 1 29·59 | +13·37 | ......... | +14·03 | 13 1 56·99 |
| Apr. 17 | δ Ursæ Minoris S.P. | 27·0 | 11·0 | 54·0 | 36·5 | 20·5 | 22 53·80 | + 6·59 | ......... | +14·52 | 6 23 14·91 |
| | α Canis Majoris | 29·7 | 43·5 | 57·4 | 11·2 | 25·0 | 37 57·36 | + 0·57 | +14·43 | +14·53 | 6 38 12·46 |
| | ζ Geminorum | 2·6 | 16·7 | 31·0 | 45·3 | 59·5 | 54 31·02 | + 0·25 | ......... | +14·54 | 6 54 45·81 |
| | δ Geminorum | 59·4 | 13·6 | 28·0 | 42·3 | 56·7 | 10 28·00 | + 0·31 | +14·46 | +14·55 | 7 10 42·86 |
| | α² Geminorum | 46·5 | 2·2 | 17·9 | 33·7 | 49·3 | 24 17·92 | + 0·24 | +14·59 | +14·55 | 7 24 32·71 |
| | Moon 1 Limb | ...... | 24·2 | 39·0 | 54·0 | 9·2 | 27 39·16 | + 0·31 | ......... | +14·55 | 7 27 54·02 |
| | α Canis Minoris | 21·5 | 35·0 | 48·3 | 1·7 | 15·1 | 30 48·32 | + 0·42 | +14·60 | +14·56 | 7 31 3·30 |
| | β Geminorum | 54·4 | 10·5 | 25·6 | 40·8 | 55·8 | 35 25·62 | + 0·27 | +14·61 | +14·56 | 7 35 40·45 |
| | ζ Cancri, preceding | 28·0 | 41·8 | 55·8 | 9·9 | 23·8 | 2 55·86 | + 0·35 | ......... | +14·58 | 8 3 10·79 |
| Apr. 18 | Sun 1 Limb | 21·4 | 34·8 | 48·4 | 2·0 | 15·3 | 42 48·38 | + 0·25 | ......... | +15·36 | 1 43 3·99 |
| | Sun 2 Limb | 31·3 | 44·7 | 58·5 | 12·2 | 25·5 | 44 58·44 | + 0·25 | ......... | +15·36 | 1 45 14·05 |
| | β Orionis | 15·0 | 28·4 | 41·8 | 55·4 | 8·7 | 6 41·86 | + 0·33 | +15·47 | +15·45 | 5 6 57·64 |
| | μ Geminorum | 41·2 | 55·5 | 9·9 | 24·3 | 38·7 | 13 9·92 | + 0·19 | +15·43 | +15·47 | 6 13 25·58 |
| | α Canis Majoris | 28·7 | 42·6 | 56·5 | 10·4 | 24·2 | 37 56·48 | + 0·38 | +15·48 | +15·48 | 6 38 12·34 |
| | α Canis Minoris | 20·8 | 34·1 | 47·4 | 0·8 | 14·3 | 30 47·48 | + 0·27 | +15·58 | +15·50 | 7 31 3·25 |
| | ζ Cancri, preceding | 27·1 | 41·0 | 55·1 | 9·0 | 23·0 | 2 55·04 | + 0·22 | ......... | +15·52 | 8 3 10·78 |
| | Moon 1 Limb | 46·5 | 1·1 | 15·4 | 29·8 | 44·1 | 27 15·38 | + 6·22 | ......... | +15·52 | 8 27 31·12 |
| | δ Cancri | 0·4 | 14·5 | 28·4 | 42·4 | 56·4 | 35 28·42 | + 0·22 | ......... | +15·52 | 8 35 44·16 |
| | ε Hydræ | 43·7 | 57·1 | 10·6 | 24·0 | 37·4 | 38 10·56 | + 0·26 | +15·57 | +15·52 | 8 38 26·34 |
| | α² Cancri | 9·7 | 23·3 | 36·8 | 50·6 | 4·1 | 49 36·90 | + 0·24 | ......... | +15·52 | 8 49 52·66 |
| | Groombridge 1782 | 13·0 | 48·0 | 23·5 | 59·5 | 34·5 | 20 23·70 | − 1·59 | ......... | +15·51 | 11 20 37·62 |
| | 6 Comæ Berenices | 18·2 | 32·0 | 45·8 | 59·8 | 13·5 | 7 45·86 | + 0·23 | ......... | +15·50 | 12 8 1·59 |
| | 21 Comæ Berenices | 24·7 | 39·6 | 54·0 | 9·0 | 23·7 | 22 54·20 | + 0·18 | ......... | +15·50 | 12 23 9·88 |
| | 22 Comæ Berenices | 59·6 | 14·2 | 29·0 | 43·4 | 58·0 | 25 28·84 | + 0·18 | ......... | +15·50 | 12 25 44·52 |
| | 24 Comæ Berenices | 31·2 | 45·2 | 59·4 | 13·5 | 27·5 | 26 59·36 | + 0·22 | ......... | +15·50 | 12 27 15·08 |
| | 25 Comæ Berenices | 22·2 | 36·0 | 50·1 | 4·1 | 18·1 | 28 50·10 | + 0·22 | ......... | +15·50 | 12 29 5·82 |
| | 31 Virginis | 17·2 | 30·6 | 44·0 | 57·5 | 10·8 | 33 44·02 | + 0·26 | ......... | +15·50 | 12 33 59·78 |
| | 27 Comæ Berenices | 4·5 | 18·4 | 32·2 | 46·1 | 0·1 | 38 32·26 | + 0·22 | ......... | +15·49 | 12 38 47·97 |
| | 41 Virginis | 14·1 | 27·4 | 41·0 | 55·2 | 8·6 | 45 41·26 | + 0·24 | ......... | +15·49 | 12 45 56·99 |
| | 39 Comæ Berenices | 57·8 | 12·0 | 26·3 | 40·6 | 55·0 | 58 26·34 | + 0·19 | ......... | +15·49 | 12 58 42·02 |
| | α Ursæ Minoris S.P. | ...... | 13·0 | 32·5 | 48·5 | 8·0 | 1 31·46 | +10·29 | ......... | +15·49 | 13 1 57·24 |
| | 57 Virginis | 45·6 | 59·8 | 14·0 | 28·1 | 42·1 | 7 13·92 | + 0·39 | ........ | +15·49 | 13 7 29·80 |
| Apr. 19 | Sun 1 Limb | 4·2 | 17·6 | 31·2 | 44·8 | 58·6 | 46 31·28 | + 0·24 | ......... | +15·21 | 1 46 46·73 |
| | Sun 2 Limb | 14·5 | 27·9 | 41·4 | 55·1 | 8·6 | 48 41·50 | + 0·24 | ......... | +15·21 | 1 48 56·95 |
| | Venus 1 Limb | 55·2 | 9·2 | 23·0 | 36·8 | 50·5 | 32 22·94 | + 0·21 | ......... | +15·20 | 2 32 38·35 |
| | α Canis Majoris | 29·0 | 43·0 | 56·8 | 10·6 | 24·6 | 37 56·80 | + 0·37 | +15·15 | +15·19 | 6 38 12·36 |
| | α² Geminorum | 45·9 | 1·7 | 17·4 | 33·1 | 48·8 | 24 17·38 | + 0·11 | +15·23 | +15·19 | 7 24 32·68 |
| | α Canis Minoris | 21·2 | 34·6 | 47·8 | 1·2 | 14·6 | 30 47·88 | + 0·26 | +15·17 | +15·19 | 7 31 3·33 |
| | β Geminorum | 54·9 | 10·0 | 25·1 | 40·3 | 55·3 | 35 25·12 | + 0·14 | +15·20 | +15·19 | 7 35 40·45 |
| | α² Cancri | 10·0 | 23·6 | 37·2 | 51·0 | 4·6 | 49 37·28 | + 0·23 | ......... | +15·20 | 8 49 52·71 |
| | Moon 1 Limb | 5·0 | 19·0 | 33·0 | 47·0 | 1·0 | 24 33·00 | + 0·23 | ......... | +15·20 | 9 24 48·43 |
| | ε Leonis | 10·5 | 25·0 | 39·6 | 54·2 | 8·8 | 36 39·62 | + 0·16 | +15·21 | +15·20 | 9 36 54·98 |
| | α Leonis | 17·0 | 30·6 | 44·2 | 58·0 | 11·5 | 59 44·26 | + 0·23 | +15·17 | +15·20 | 9 59 59·69 |
| | Groombridge 1782 | 13·5 | 48·0 | 24·0 | 59·0 | 35·0 | 20 23·90 | − 1·72 | ......... | +15·22 | 11 20 37·40 |
| | 6 Comæ Berenices | 18·6 | 32·4 | 46·1 | 0·0 | 13·8 | 7 46·18 | + 0·21 | ......... | +15·23 | 12 8 1·62 |
| | 15 Comæ Berenices | 20·9 | 36·0 | 51·1 | 6·4 | 21·6 | 18 51·20 | + 0·14 | ......... | +15·23 | 12 19 6·57 |
| | 21 Comæ Berenices | 25·1 | 39·9 | 54·6 | 9·1 | 24·0 | 22 54·54 | + 0·16 | ......... | +15·23 | 12 23 9·93 |
| | 22 Comæ Berenices | 59·8 | 14·4 | 29·0 | 43·9 | 58·5 | 25 29·12 | + 0·16 | ......... | +15·24 | 12 25 44·52 |
| | 24 Comæ Berenices | 31·7 | 45·5 | 59·8 | 13·8 | 27·8 | 26 59·72 | + 0·20 | ......... | +15·24 | 12 27 15·16 |
| | 31 Virginis | 17·6 | 30·9 | 44·4 | 57·9 | 11·3 | 33 44·42 | + 0·25 | ......... | +15·24 | 12 33 59·91 |
| | 27 Comæ Berenices | 5·0 | 18·8 | 32·8 | 46·8 | 0·7 | 38 32·82 | + 0·20 | ......... | +15·24 | 12 38 48·26 |
| | 41 Virginis | 14·3 | 28·1 | 41·7 | 55·4 | 8·8 | 45 41·66 | + 0·22 | ......... | +15·24 | 12 45 57·12 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 19 | 39 Comæ Berenices | 58·1 | 12·4 | 26·8 | 41·2 | 55·5 | 58 26·80 | + 0·18 | ……… | +15·25 | 12 58 42·23 |
| | α Ursæ Minoris S.P. | …… | 15·0 | 34·0 | 49·5 | 9·0 | 1 32·55 | +10·89 | ……… | +15·25 | 13 1 58·69 |
| | 57 Virginis ………… | 46·0 | 0·4 | 14·4 | 28·3 | 42·2 | 7 14·26 | + 0·38 | ……… | +15·25 | 13 7 29·89 |
| | α Ursæ Minoris …… | 18·0 | 34·0 | 52·0 | 12·0 | 27·0 | 1 52·60 | −10·30 | ……… | +15·51 | 1 1 57·81 |
| Apr. 20 | Sun 1 Limb………… | 47·0 | 0·6 | 14·0 | 27·7 | 41·2 | 50 14·10 | + 0·19 | ……… | +15·53 | 1 50 29·82 |
| | Sun 2 Limb………… | 57·3 | 10·8 | 24·4 | 38·0 | 51·6 | 52 24·42 | + 0·19 | ……… | +15·53 | 1 52 40·14 |
| | Venus 1 Limb……… | 42·9 | 57·0 | 10·8 | 24·4 | 38·1 | 37 10·64 | + 0·17 | ……… | +15·54 | 2 37 26·35 |
| | Mars 1 Limb ……… | 36·0 | 49·8 | 3·8 | 17·7 | 31·8 | 2 3·82 | + 0·15 | ……… | +15·56 | 3 2 19·53 |
| | α Aurigæ …………… | 9·2 | 28·3 | 47·3 | 6·4 | 25·6 | 4 47·36 | − 0·03 | ……… | +15·60 | 5 5 2·93 |
| | β Orionis…………… | 15·0 | 28·5 | 41·8 | 55·2 | 8·6 | 6 41·82 | + 0·29 | +15·52 | +15·60 | 5 6 57·71 |
| | δ Ursæ Minoris S.P. | 28·0 | 11·0 | 54·0 | 37·5 | 20·0 | 22 54·10 | + 4·90 | ……… | +15·63 | 6 23 14·63 |
| | $\alpha^2$ Geminorum……… | 45·6 | 1·3 | 17·0 | 32·6 | 48·3 | 24 16·96 | + 0·07 | +15·67 | +15·65 | 7 24 32·68 |
| | α Canis Minoris …… | 20·6 | 34·0 | 47·3 | 0·7 | 14·1 | 30 47·34 | + 0·22 | +15·74 | +15·66 | 7 31 3·22 |
| | β Geminorum……… | 54·6 | 9·6 | 24·7 | 39·8 | 54·8 | 35 24·70 | + 0·10 | +15·65 | +15·66 | 7 35 40·46 |
| | π Leonis …………… | 11·4 | 24·6 | 38·0 | 51·4 | 5·1 | 51 38·10 | + 0·20 | ……… | +15·70 | 9 51 54·00 |
| | α Leonis…………… | 16·6 | 30·1 | 43·8 | 57·4 | 11·0 | 59 43·78 | + 0·18 | +15·69 | +15·70 | 9 59 59·66 |
| | Moon 1 Limb……… | 27·1 | 41·0 | 54·7 | 8·5 | 22·1 | 19 54·68 | + 0·21 | ……… | +15·71 | 10 20 10·60 |
| | 34 Sextantis………… | 47·8 | 1·2 | 14·6 | 28·0 | 41·4 | 34 14·60 | + 0·22 | ……… | +15·72 | 10 34 30·54 |
| | 58 Leonis …………… | 44·4 | 57·5 | 10·7 | 24·0 | 37·5 | 52 10·82 | + 0·22 | ……… | +15·73 | 10 52 26·77 |
| | Groombridge 1782… | 13·0 | 48·5 | 24·0 | 59·0 | 34·5 | 20 23·80 | − 1·73 | ……… | +15·74 | 11 20 37·81 |
| | 6 Comæ Berenices … | 18·3 | 32·0 | 46·0 | 59·8 | 13·5 | 7 45·92 | + 0·17 | ……… | +15·76 | 12 8 1·85 |
| | 15 Comæ Berenices | 20·4 | 35·5 | 50·6 | 6·0 | 21·2 | 18 50·74 | + 0·10 | ……… | +15·76 | 12 19 6·60 |
| | 21 Comæ Berenices | 24·8 | 39·5 | 54·3 | 9·1 | 23·7 | 22 54·28 | + 0·11 | ……… | +15·76 | 12 23 10·15 |
| | 22 Comæ Berenices | 59·4 | 14·1 | 28·8 | 43·6 | 58·2 | 25 28·82 | + 0·11 | ……… | +15·76 | 12 25 44·69 |
| | 24 Comæ Berenices | 31·2 | 45·4 | 59·5 | 13·6 | 27·6 | 26 59·46 | + 0·15 | ……… | +15·76 | 12 27 15·37 |
| | 31 Virginis ………… | 17·1 | 30·6 | 44·0 | 57·4 | 10·8 | 33 43·98 | + 0·21 | ……… | +15·77 | 12 33 59·96 |
| | 27 Comæ Berenices | 4·5 | 18·5 | 32·4 | 46·2 | 0·1 | 38 32·34 | + 0·16 | ……… | +15·77 | 12 38 48·27 |
| | ε Ursæ Majoris …… | 4·2 | 28·2 | 52·3 | 16·6 | 41·1 | 46 52·48 | − 0·18 | ……… | +15·77 | 12 47 8·07 |
| | 40 Comæ Berenices | 59·5 | 14·0 | 28·4 | 43·0 | 57·3 | 58 28·44 | + 0·13 | ……… | +15·78 | 12 58 44·35 |
| | α Ursæ Minoris S.P. | …… | 14·5 | 33·0 | 49·0 | 7·0 | 1 31·86 | +10·63 | ……… | +15·78 | 13 1 58·27 |
| | 57 Virginis………… | 45·9 | 0·0 | 14·0 | 28·0 | 42·1 | 7 14·00 | + 0·34 | ……… | +15·78 | 13 7 30·12 |
| | Mercury 2 Limb…… | 53·0 | 6·6 | 20·0 | 33·2 | 46·6 | 46 19.88 | + 0·23 | ……… | +15·89 | 0 46 36·00 |
| | α Ursæ Minoris …… | …… | 33·5 | 50·5 | 9·0 | 25·0 | 1 50·65 | −10·12 | ……… | +15·89 | 1 1 56·42 |
| Apr. 21 | Sun 1 Limb………… | 30·0 | 43·7 | 57·2 | …… | 24·5 | 53 57·26 | + 0·21 | ……… | +15·90 | 1 54 13·37 |
| | Sun 2 Limb………… | 40·5 | 54·1 | 7·7 | 21·3 | 34·8 | 56 7·68 | + 0·21 | ……… | +15·90 | 1 56 23·79 |
| | Venus 1 Limb……… | 31·6 | 45·3 | 59·1 | 13·3 | 27·0 | 41 59·26 | + 0·18 | ……… | +15·91 | 2 42 15·35 |
| | Mars 1 Limb……… | …… | 41·1 | 55·0 | 9·1 | 23·0 | 4 55·06 | + 0·17 | ……… | +15·91 | 3 5 11·14 |
| | α Canis Minoris …… | 20·4 | 33·8 | 47·2 | 0·5 | 13·8 | 30 47·14 | + 0·23 | +15·91 | +15·96 | 7 31 3·33 |
| | β Geminorum……… | 54·1 | 9·2 | 24·4 | 39·5 | 54·6 | 35 24·36 | + 0·12 | +15·95 | +15·96 | 7 35 40·44 |
| | ε Leonis……………… | 9·7 | 24·1 | 38·7 | 53·3 | 8·0 | 36 38·76 | + 0·14 | +16·06 | +15·98 | 9 36 54·88 |
| | α Leonis…………… | 16·2 | 29·8 | 43·5 | 57·1 | 10·6 | 59 43·44 | + 0·20 | +16·05 | +15·98 | 9 59 59·62 |
| | 34 Sextantis………… | 47·5 | 1·0 | 14·2 | 27·5 | 40·8 | 34 14·20 | + 0·23 | ……… | +15·99 | 10 34 30·42 |
| | 58 Leonis …………… | 43·7 | 57·0 | 10·5 | 23·8 | 37·1 | 52 10·42 | + 0·23 | ……… | +16·00 | 10 52 26·65 |
| | δ Leonis …………… | 0·0 | 14·4 | 28·7 | 43·0 | 57·2 | 5 28·66 | + 0·16 | +15·95 | +16·00 | 11 5 44·82 |
| | Moon 1 Limb……… | 47·3 | 0·9 | 14·6 | 28·2 | 41·8 | 14 14·56 | + 0·26 | ……… | +16·00 | 11 14 30·82 |
| | υ Leonis…………… | 11·5 | 25·0 | 38·2 | …… | 4·7 | 28 38·18 | + 0·26 | ……… | +16·00 | 11 28 54·44 |
| | β Virginis…………… | 48·0 | 1·3 | 14·7 | 28·0 | 41·2 | 42 14·64 | + 0·24 | ……… | +16·01 | 11 42 30·89 |
| | 7 Comæ Berenices … | 38·3 | 52·8 | 7·5 | 22·2 | 36·8 | 8 7·52 | + 0·14 | ……… | +16·01 | 12 8 23·67 |
| | 16 Comæ Berenices | 22·0 | 37·0 | 52·0 | 7·0 | 22·0 | 18 52·00 | + 0·12 | ……… | +16·01 | 12 19 8·13 |
| | 8 Canum Venat…… | 25·2 | 43·1 | 1·1 | 19·1 | 36·9 | 26 1·08 | + 0·03 | ……… | +16·01 | 12 26 17·12 |
| | ε Ursæ Majoris …… | 3·5 | 27·6 | 52·0 | 16·3 | 40·6 | 46 52·00 | − 0·14 | ……… | +16·01 | 12 47 7·87 |
| | 40 Comæ Berenices | 59·1 | 13·6 | 28·0 | 42·5 | 57·0 | 58 28·04 | + 0·14 | ……… | +16·02 | 12 58 44·20 |
| | α Ursæ Minoris S.P. | …… | 14·5 | 32·5 | 49·0 | 7·0 | 1 31·75 | +10·02 | ……… | +16·02 | 13 1 57·79 |
| | 59 Virginis………… | 16·0 | 29·4 | 42·8 | 56·3 | 9·8 | 8 42·86 | + 0·21 | ……… | +16·02 | 13 8 59·09 |
| | Mercury 2 Limb …… | 7·2 | 20·0 | 33·6 | 47·1 | 0·2 | 52 33·62 | + 0·24 | ……… | +16·05 | 0 52 49·91 |
| | α Ursæ Minoris …… | 16·0 | …… | 51·0 | 9·5 | 26·5 | 1 51·57 | − 9·49 | ……… | +16·05 | 1 1 58·13 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 22 | Sun 1 Limb | 13·9 | 27·5 | 41·1 | 54·8 | 8·3 | 57 41·12 | + 0·19 | ......... | +16·05 | 1 57 57·36 |
| | Sun 2 Limb | 24·4 | 38·0 | 51·6 | 5·2 | 18·8 | 59 51·60 | + 0·19 | ......... | +16·05 | 2 0 7·84 |
| | Venus 1 Limb | 21·4 | 35·3 | 49·1 | 3·1 | 16·9 | 46 49·16 | + 0·16 | ......... | +16·05 | 2 47 5·37 |
| | Mars 1 Limb | 18·8 | 32·7 | 46·7 | 0·8 | 14·7 | 7 46·74 | + 0·16 | ......... | +16·05 | 3 8 2·95 |
| | β Tauri | 33·4 | 48·3 | 3·5 | 18·7 | 33·7 | 16 3·52 | + 0·10 | +16·07 | +16·09 | 5 16 19·71 |
| | α Orionis | 55·3 | 8·6 | 22·0 | 35·4 | 48·8 | 46 22·02 | + 0·21 | +16·09 | +16·10 | 5 46 38·33 |
| | α Leonis | 16·1 | 29·7 | 43·3 | 57·0 | 10·5 | 59 43·32 | + 0·18 | +16·13 | +16·12 | 9 59 59·62 |
| | δ Leonis | 59·9 | 14·1 | 28·4 | 42·7 | 57·1 | 5 28·44 | + 0·14 | +16·18 | +16·12 | 11 5 44·70 |
| | δ Hydræ & Crateris | 45·6 | 59·2 | 13·0 | 26·6 | 40·4 | 11 12·96 | + 0·31 | +16·07 | +16·12 | 11 11 29·39 |
| | υ Leonis | 11·4 | 24·7 | 38·1 | 51·3 | 4·6 | 28 38·02 | + 0·24 | ......... | +16·12 | 11 28 54·38 |
| | β Virginis | 47·8 | 1·2 | 14·5 | 27·7 | 41·0 | 42 14·44 | + 0·23 | ......... | +16·13 | 11 42 30·80 |
| | Moon 1 Limb | 9·6 | 23·3 | 37·0 | 50·8 | 4·4 | 8 37·02 | + 0·27 | ......... | +16·13 | 12 8 53·42 |
| | 16 Comæ Berénices | 21·7 | 37·0 | 51·9 | 6·9 | 21·8 | 18 51·86 | + 0·11 | ......... | +16·13 | 12 19 8·10 |
| | 21 Virginis | 57·2 | 11·0 | 24·1 | 37·5 | 51·2 | 25 24·20 | + 0·28 | ......... | +16·13 | 12 25 40·61 |
| | ψ Virginis | 28·4 | 41·7 | 55·1 | 8·3 | 22·0 | 45 55·10 | + 0·28 | ......... | +16·13 | 12 46 11·51 |
| | 40 Comæ Berenices | 59·0 | 13·4 | 27·8 | 42·3 | 56·7 | 58 27·84 | + 0·13 | ......... | +16·14 | 12 58 44·11 |
| | α Ursæ Minoris S.P. | ...... | ...... | 30·0 | 49·0 | 8·0 | 1 31·00 | +10·11 | ......... | +16·14 | 13 1 57·25 |
| | 59 Virginis | 15·8 | 29·2 | 42·5 | 56·3 | 9·8 | 8 42·72 | + 0·20 | ......... | +16·14 | 13 8 59·06 |
| | Mercury 2 Limb | ...... | 40·1 | 53·4 | 6·7 | 20·2 | 58 53·41 | + 0·23 | ......... | +16·31 | 0 59 9·95 |
| | α Ursæ Minoris | 17·0 | 33·0 | 50·0 | 8·5 | ...... | 1 51·11 | − 9·60 | ......... | +16·31 | 1 1 57·82 |
| Apr. 23 | Sun 1 Limb | 57·7 | 11·3 | 25·0 | 38·7 | 52·2 | 1 24·98 | + 0·18 | ......... | +16·33 | 2 1 41·49 |
| | Sun 2 Limb | 8·5 | 22·2 | 35·7 | 49·4 | 3·1 | 3 35·78 | + 0·18 | ......... | +16·33 | 2 3 52·29 |
| | Venus 1 Limb | 12·2 | 26·0 | 39·8 | 53·8 | 7·7 | 51 39·90 | + 0·16 | ......... | +16·36 | 2 51 56·42 |
| | Mars 1 Limb | ...... | 24·4 | 38·2 | 52·3 | 6·1 | 10 38·25 | + 0·15 | ......... | +16·37 | 3 10 54·77 |
| | α Canis Minoris | 20·0 | 33·4 | 46·7 | 0·0 | 13·4 | 30 46·70 | + 0·20 | +16·35 | +16·45 | 7 31 3·35 |
| | β Geminorum | 53·6 | 8·7 | 23·7 | 38·8 | 53·9 | 35 23·74 | + 0·10 | +16·56 | +16·45 | 7 35 40·29 |
| Apr. 25 | Sun 1 Limb | 27·0 | 40·7 | 54·3 | 8·0 | 21·7 | 8 54·34 | + 0·18 | ......... | +17·26 | 2 9 11·78 |
| | Sun 2 Limb | 37·9 | 51·5 | 5·3 | 19·1 | 32·7 | 11 5·30 | + 0·18 | ......... | +17·26 | 2 11 22·74 |
| | Venus 1 Limb | 56·6 | 10·6 | 24·5 | 38·7 | 52·5 | 1 24·58 | + 0·17 | ......... | +17·31 | 3 1 42·06 |
| | Mars 1 Limb | 53·8 | 7·8 | 21·8 | 35·9 | 50·0 | 16 21·86 | + 0·17 | ......... | +17·32 | 3 16 39·35 |
| | β Tauri | 32·0 | 47·1 | 2·2 | 17·2 | 32·4 | 16 2·18 | + 0·12 | +17·37 | +17·38 | 5 16 19·68 |
| | δ Leonis | 58·3 | 12·7 | 27·0 | 41·3 | 55·5 | 5 26·96 | + 0·15 | +17·62 | +17·52 | 11 5 44·63 |
| | β Leonis | 17·4 | 31·1 | 44·9 | 58·9 | 12·5 | 40 44·96 | + 0·18 | +17·55 | +17·53 | 11 41 2·67 |
| | 16 Comæ Berenices | 20·3 | 35·2 | 50·4 | 5·5 | 20·2 | 18 50·32 | + 0·12 | ......... | +17·55 | 12 19 7·99 |
| | 34 Virginis | 34·5 | 48·1 | 1·7 | 15·4 | 29·0 | 39 1·74 | + 0·18 | ......... | +17·56 | 12 39 19·48 |
| | ε Ursæ Majoris | 1·8 | 25·8 | 50·1 | 14·3 | 39·0 | 46 50·20 | − 0·08 | ......... | +17·56 | 12 47 7·68 |
| | 41 Comæ Berenices | 51·0 | 6·0 | 21·1 | 36·3 | 51·3 | 59 21·14 | + 0·12 | ......... | +17·57 | 12 59 38·83 |
| | α Ursæ Minoris S.P. | ...... | 16·0 | 35·0 | 52·0 | 8·5 | 1 33·92 | + 8·02 | ......... | +17·57 | 13 1 59·51 |
| | 59 Virginis | 14·5 | 28·0 | 41·3 | 54·7 | 8·4 | 8 41·38 | + 0·20 | ......... | +17·57 | 13 8 59·15 |
| | $\alpha^2$ Libræ | 26·7 | 40·6 | 54·2 | 8·0 | 21·8 | 41 54·26 | + 0·28 | +17·62 | +17·60 | 14 42 12·14 |
| | 20 Libræ | 6·6 | 21·1 | 35·8 | 50·3 | 5·0 | 54 35·76 | + 0·32 | ......... | +17·61 | 14 54 53·69 |
| | Moon 2 Limb | 26·1 | 41·0 | 55·8 | 10·6 | 25·6 | 2 55·82 | + 0·31 | ......... | +17·61 | 15 3 13·74 |
| | β Libræ | 49·2 | 2·6 | 16·1 | 29·6 | 43·0 | 8 16·10 | + 0·27 | +17·52 | +17·61 | 15 8 33·98 |
| | α Coronæ Borealis | 15·4 | 30·2 | 45·2 | 0·1 | 15·0 | 27 45·18 | + 0·13 | +17·67 | +17·62 | 15 28 2·93 |
| | κ Libræ | 8·4 | 22·5 | 36·5 | 50·8 | 4·8 | 32 36·60 | + 0·30 | ......... | +17·62 | 15 32 54·52 |
| | π Scorpii | 34·3 | 49·0 | 3·8 | 18·8 | 33·3 | 49 3·84 | + 0·33 | ......... | +17·63 | 15 49 21·80 |
| | α Ursæ Minoris | 13·5 | 32·0 | 49·5 | 7·0 | ...... | 1 49·44 | − 7·54 | ......... | +17·74 | 1 1 59·64 |
| | Mercury 2 Limb | 5·4 | 18·8 | 32·2 | 45·7 | 59·1 | 18 32·24 | + 0·21 | ......... | +17·74 | 1 18 50·19 |
| Apr. 26 | Sun 1 Limb | 12·1 | ...... | 39·3 | 53·1 | 6·8 | 12 39·40 | + 0·22 | ......... | +17·76 | 2 12 57·38 |
| | Sun 2 Limb | 23·3 | 36·8 | 50·6 | 4·4 | 18·0 | 14 50·62 | + 0·22 | ......... | +17·76 | 2 15 8·60 |
| | Venus 1 Limb | 50·2 | 4·3 | 18·1 | 32·2 | 46·2 | 6 18·20 | + 0·20 | ......... | +17·78 | 3 6 36·18 |
| | α Tauri | 6·7 | 20·6 | 34·5 | 48·3 | 2·0 | 26 34·42 | + 0·20 | +17·64 | +17·81 | 4 26 52·43 |
| | α Orionis | 53·4 | 6·7 | 20·1 | 33·5 | 46·8 | 46 20·10 | + 0·25 | +17·93 | +17·83 | 5 46 38·18 |
| | δ Ursæ Minoris S.P. | ...... | 13·0 | 55·5 | 37·5 | 21·0 | 22 55·05 | + 4·71 | ......... | +17·85 | 6 23 17·61 |
| | δ Leonis | 58·1 | 12·4 | 26·5 | 40·8 | 55·0 | 5 26·56 | + 0·18 | +17·98 | +17·94 | 11 5 44·68 |

| Date. | Object Observed. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 26 | β Leonis | 17·0 | 30·8 | 44·6 | 58·2 | 12·0 | 40 44·52 | + 0·21 | +17·95 | +17·95 | 11 41 2·68 |
|  | 7 Comæ Berenices | 36·2 | 50·8 | 5·6 | 20·1 | 34·8 | 8 5·50 | + 0·16 | ......... | +17·97 | 12 8 23·63 |
|  | 8 Canum Venat | 23·1 | 41·0 | 59·0 | 16·9 | 34·9 | 25 58·98 | + 0·04 | ......... | +17·98 | 12 26 17·00 |
|  | 34 Virginis | 34·0 | 47·6 | 1·2 | 14·8 | 28·5 | 39 1·22 | + 0·22 | ......... | +17·99 | 12 39 19·43 |
|  | 41 Comæ Berenices | 50·6 | 5·6 | 20·8 | 35·8 | 50·8 | 59 20·72 | + 0·14 | ......... | +18·00 | 12 59 38·86 |
|  | α Ursæ Minoris S.P. | 57·0 | 16·0 | 33·5 | ...... | 5·5 | 1 32·13 | +10·16 | ......... | +18·00 | 13 2 0·29 |
|  | σ Virginis | 55·7 | 9·3 | 22·6 | 36·0 | 49·3 | 9 22·58 | + 0·25 | ......... | +18·01 | 13 9 40·84 |
|  | α Coronæ Borealis | 15·0 | 29·8 | 44·8 | 59·7 | 14·6 | 27 44·78 | + 0·14 | +18·07 | +18·06 | 15 28 2·98 |
|  | κ Libræ | 8·1 | 22·2 | 36·1 | 50·2 | 4·3 | 32 36·18 | + 0·37 | ......... | +18·06 | 15 32 54·61 |
|  | α Serpentis | 47·5 | 0·8 | 14·1 | 27·6 | 40·9 | 36 14·18 | + 0·25 | +17·96 | +18·06 | 15 36 32·49 |
|  | π Scorpii | 33·8 | 48·5 | 3·2 | 18·0 | 32·8 | 49 3·26 | + 0·40 | ......... | +18·07 | 15 49 21·73 |
|  | Moon 2 Limb | 4·6 | 19·7 | 34·7 | 50·0 | 5·1 | 3 34·82 | + 0·39 | ......... | +18·07 | 16 3 53·28 |
|  | σ Scorpii | 51·2 | 6·0 | 20·7 | 35·4 | 49·9 | 11 20·64 | + 0·40 | ......... | +18·08 | 16 11 39·12 |
|  | α Scorpii | 59·2 | 14·0 | 28·7 | 43·6 | 58·2 | 19 28·74 | + 0·40 | +18·13 | +18·08 | 16 19 47·22 |
|  | α Ursæ Minoris | 16·5 | 35·0 | 52·5 | 11·0 | 25·5 | 1 52·10 | − 9·58 | ......... | +18·27 | 1 2 0·79 |
|  | Mercury 2 Limb | 52·6 | 6·2 | 19·5 | 32·8 | 46·3 | 25 19·48 | + 0·25 | ......... | +18·27 | 1 25 38·00 |
| Apr. 27 | Sun 1 Limb | 58·0 | 11·6 | 25·3 | 39·1 | 52·8 | 16 25·36 | + 0·18 | ......... | +18·29 | 2 16 43·83 |
|  | Sun 2 Limb | 9·4 | 23·0 | 36·6 | 50·3 | 4·1 | 18 36·68 | + 0·18 | ......... | +18·29 | 2 18 55·15 |
|  | Venus 1 Limb | 45·4 | 59·6 | 13·4 | 27·4 | 41·3 | 10 13·42 | + 0·16 | ......... | +18·30 | 3 10 31·88 |
|  | Mars 1 Limb | 38·2 | 52·2 | 6·0 | 20·6 | 34·3 | 22 6·26 | + 0·16 | ......... | +18·30 | 3 22 24·72 |
|  | α Orionis | 52·8 | 6·4 | 19·7 | 33·1 | 46·6 | 46 19·72 | + 0·21 | +18·34 | +18·33 | 5 46 38·26 |
|  | δ Ursæ Minoris S.P. | 29·0 | 12·0 | 56·0 | 37·5 | 21·5 | 22 55·20 | + 4·20 | ......... | +18·34 | 6 23 17·76 |
|  | α Canis Minoris | 18·1 | 31·4 | 44·7 | 58·1 | 11·3 | 30 44·72 | + 0·21 | +18·27 | +18·36 | 7 31 3·29 |
|  | β Geminorum | 51·5 | 6·7 | 21·7 | 36·8 | 52·0 | 35 21·74 | + 0·11 | +18·48 | +18·36 | 7 35 40·21 |
|  | δ Leonis | 57·4 | 11·8 | 26·1 | 40·4 | 54·7 | 5 26·08 | + 0·15 | +18·48 | +18·45 | 11 5 44·68 |
|  | α Ursæ Minoris | 15·5 | 33·0 | 48·5 | 6·5 | 26·0 | 1 49·90 | − 8·58 | ......... | +18·95 | 1 2 0·27 |
|  | Mercury 2 Limb | 46·7 | 0·2 | 13·6 | 27·1 | 40·5 | 32 13·62 | + 0·21 | ......... | +18·97 | 1 32 32·80 |
| Apr. 28 | Sun 1 Limb | 44·1 | 57·8 | 11·6 | 25·4 | 38·9 | 20 11·56 | + 0·21 | ......... | +19·00 | 2 20 30·77 |
|  | Sun 2 Limb | 55·6 | 9·3 | 23·1 | 36·6 | 50·5 | 22 23·02 | + 0·21 | ......... | +19·00 | 2 22 42 23 |
|  | Venus 1 Limb | 41·2 | 55·3 | 9·3 | 23·5 | 37·5 | 16 9·36 | + 0·20 | ......... | +19·02 | 3 16 28·58 |
|  | Mars 1 Limb | 30·5 | 44·5 | 58·3 | 12·5 | 26·6 | 24 58·48 | + 0·20 | ......... | +19·03 | 3 25 17·71 |
|  | α Tauri | 5·7 | 19·4 | 33·3 | 47·1 | 1·0 | 26 33·30 | + 0·21 | +19·04 | +19·08 | 4 26 52·59 |
|  | δ Ursæ Minoris S.P. | 29·0 | 11·0 | 54·0 | 38·0 | 22·0 | 22 54·80 | + 4·48 | ......... | +19·11 | 6 23 18·39 |
|  | β Geminorum | 50·8 | 5·9 | 21·1 | 36·2 | 51·2 | 35 21·04 | + 0·15 | +19·13 | +19·11 | 7 35 40·30 |
|  | ε Leonis | 6·4 | 21·0 | 35·6 | 50·2 | 4·8 | 36 35·60 | + 0·16 | +19·10 | +19·12 | 9 36 54·88 |
|  | δ Leonis | 56·8 | 11·1 | 25·3 | 39·7 | 53·9 | 5 25·36 | + 0·17 | +19·17 | +19·14 | 11 5 44·67 |
|  | δ Hydræ & Crateris | 42·2 | 56·1 | 9·9 | 23·7 | 37·4 | 11 9·86 | + 0·34 | +19·09 | +19·14 | 11 11 29·34 |
|  | 7 Comæ Berenices | 35·1 | 49·6 | 4·2 | 19·0 | 33·5 | 8 4·28 | + 0·16 | ......... | +19·16 | 12 8 23·60 |
|  | 8 Canum Venat | 21·9 | 39·9 | 57·8 | 15·6 | 33·6 | 25 57·76 | + 0·06 | ......... | +19·16 | 12 26 16·98 |
|  | 34 Virginis | 32·8 | 46·4 | 0·1 | 13·7 | 27·2 | 39 0·04 | + 0·22 | ......... | +19·16 | 12 39 19·42 |
|  | 41 Comæ Berenices | 49·2 | 4·4 | 19·5 | 34·6 | 49·6 | 59 19·46 | + 0·14 | ......... | +19·17 | 12 59 38·77 |
|  | α Ursæ Minoris S.P. | 56·0 | 14·5 | 33·5 | ...... | 7·0 | 1 31·89 | + 9·64 | ......... | +19·17 | 13 2 0·70 |
|  | σ Virginis | 54·7 | 8·1 | 21·3 | 34·8 | 48·0 | 9 21·38 | + 0·24 | ......... | +19·17 | 13 9 40·79 |
|  | α Ursæ Minoris | 16·5 | 33·0 | 49·5 | 9·0 | ...... | 1 50·91 | − 9·06 | ......... | +19·32 | 1 2 1·17 |
| Apr. 29 | Sun 2 Limb | 42·3 | 56·1 | 10·0 | 23·7 | 37·4 | 26 9·90 | + 0·34 | ......... | +19·33 | 2 26 29·57 |
|  | Venus 1 Limb | 38·2 | 52·1 | 6·2 | 20 4 | 34·5 | 21 6·28 | + 0·32 | ......... | +19·33 | 3 21 25·93 |
|  | Mars 1 Limb | 22·9 | 37·0 | 51·1 | 5·2 | 19·4 | 27 51·12 | + 0·31 | ......... | +19·33 | 3 28 10·76 |
|  | α Tauri | 5·2 | 19·0 | 32·7 | 46·7 | 0·5 | 26 32·82 | + 0·33 | +19·40 | +19·33 | 4 26 52·48 |
|  | δ Ursæ Minoris S.P. | 29·5 | 11·5 | 56·0 | 38·0 | 21·0 | 22 55·20 | + 6·41 | ......... | +19·33 | 6 23 20·94 |
|  | ε Leonis | 6·0 | 20·7 | 35·3 | 49·8 | 4·5 | 36 35·26 | + 0·27 | +19·31 | +19·31 | 9 36 54·84 |
|  | α Leonis | 12·4 | 26·2 | 39·8 | 53·7 | 7·3 | 59 39·88 | + 0·35 | +19·21 | +19·31 | 9 59 59·54 |
|  | δ Leonis | 56·5 | 11·0 | 25·2 | 39·5 | 53·7 | 5 25·18 | + 0·29 | +19·22 | +19·28 | 11 5 44·75 |
|  | β Leonis | 15·4 | 29·1 | 43·0 | 56·8 | 10·6 | 40 42·98 | + 0·34 | +19·34 | +19·27 | 11 41 2·59 |
|  | Groombridge 1858 | 14·5 | 57·0 | 40·0 | 23·0 | 5·5 | 3 40·00 | − 2·31 | ......... | +19·27 | 12 3 56·96 |
|  | α Ursæ Minoris S.P. | 53·5 | 10·0 | 28·0 | ...... | 3·5 | 1 27·89 | +13·77 | ......... | +19·26 | 13 2 0·92 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Apr. 29 | σ Virginis | 54·5 | 7·8 | 21·1 | 34·6 | 47·8 | 9 21·16 | + 0·39 | ……… | +19·26 | 13 9 40·81 |
| May 1 | ζ Cygni | 22·1 | 37·4 | 52·5 | 8·0 | 23·3 | 5 52·66 | + 0·15 | +21·50 | +21·46 | 21 6 14·27 |
| | ε Pegasi | 38·5 | 52·0 | 5·4 | 19·0 | 32·4 | 36 5·46 | + 0·25 | +21·40 | +21·46 | 21 36 27·17 |
| | α Aquarii | 53·2 | 6·5 | 19·8 | 33·1 | 46·4 | 57 19·80 | + 0·30 | +21·46 | +21·46 | 21 57 41·56 |
| | α Ursæ Minoris | 15·5 | 31·5 | 51·0 | 8·5 | 24·0 | 1 50·10 | − 9·47 | ……… | +21·46 | 1 2 2·09 |
| | Mercury 2 Limb | 42·7 | 56·3 | 10·0 | 23·5 | 37·2 | 1 9·94 | + 0·24 | ……… | +21·46 | 2 1 31·64 |
| May 2 | Sun 1 Limb | 54·0 | 8·0 | 21·8 | 35·7 | 49·5 | 35 21·80 | + 0·19 | ……… | +21·45 | 2 35 43·44 |
| | Sun 2 Limb | 6·2 | 19·9 | 33·8 | 47·6 | 1·4 | 37 33·78 | + 0·19 | ……… | +21·45 | 2 37 55·42 |
| | Venus 1 Limb | 36·4 | 50·4 | 4·6 | 18·8 | 32·9 | 36 4·62 | + 0·18 | ……… | +21·44 | 3 36 26·24 |
| | α Orionis | 49·8 | 3·3 | 16·5 | 29·9 | 43·3 | 46 16·56 | + 0·22 | +21·45 | +21·44 | 5 46 38·22 |
| | ε Leonis | 4·1 | 18·5 | 33·2 | 47·7 | 2·5 | 36 33·20 | + 0·15 | +21·45 | +21·44 | 9 36 54·79 |
| | α Leonis | 10·5 | 24·4 | 37·8 | 51·5 | 5·1 | 59 37·86 | + 0·20 | +21·44 | +21·44 | 9 59 59·50 |
| | δ Leonis | 54·4 | 8·7 | 23·0 | 37·3 | 51·5 | 5 22·98 | + 0·16 | +21·52 | +21·43 | 11 5 44·57 |
| | δ Hydræ & Crateris | 40·1 | 53·8 | 7·6 | 21·2 | 35·0 | 11 7·54 | + 0·32 | +21·40 | +21·43 | 11 11 29·29 |
| | α Ursæ Minoris S.P. | 56·0 | 11·5 | 32·0 | …… | 7·0 | 1 30·75 | + 9·20 | ……… | +21·46 | 13 2 1·41 |
| | Groombridge 1977 | 59·0 | 27·5 | 55·5 | 23·5 | 51·0 | 10 55·30 | − 1·30 | ……… | +21·46 | 13 11 15·46 |
| | Moon 2 Limb | 24·1 | 38·1 | 52·0 | 6·0 | 19·8 | 29 52·00 | + 0·30 | ……… | +21·56 | 21 30 13·86 |
| | ε Pegasi | 38·5 | 52·0 | 5·4 | 18·7 | 32·2 | 36 5·36 | + 0·22 | +21·56 | +21·56 | 21 36 27·14 |
| | α Aquarii | 53·2 | 6·5 | 19·8 | 33·0 | 46·4 | 57 19·78 | + 0·26 | +21·58 | +21·57 | 21 57 41·61 |
| | ζ Pegasi | 47·6 | 1·1 | 14·5 | 28·1 | 41·5 | 33 14·56 | + 0·21 | +21·57 | +21·57 | 22 33 36·34 |
| | α Ursæ Minoris | 15·5 | 33·0 | 51·5 | 10·0 | 27·0 | 1 51·40 | − 8·66 | ……… | +21·60 | 1 2 4·34 |
| | Mercury 2 Limb | 17·5 | 31·2 | 45·0 | 58·6 | 12·3 | 8 44·92 | + 0·21 | ……… | +21·62 | 2 9 6·75 |
| May 4 | Sun 2 Limb | 45·3 | 59·1 | 12·8 | 27·0 | 40·6 | 45 12·96 | + 0·19 | ……… | +22·20 | 2 45 35·35 |
| | ε Hydræ | 36·8 | 50·4 | 3·7 | 17·2 | 30·5 | 38 3·72 | + 0·23 | +22·21 | +22·20 | 8 38 26·15 |
| | ε Leonis | 3·2 | 17·7 | 32·4 | 47·0 | 1·6 | 36 32·38 | + 0·15 | +22·24 | +22·20 | 9 36 54·73 |
| | α Leonis | 10·0 | 23·5 | 37·0 | 50·7 | 4·2 | 59 37·08 | + 0·20 | +22·21 | +22·20 | 9 59 59·48 |
| | δ Leonis | 53·7 | 8·0 | 22·3 | 36·5 | 50·8 | 5 22·26 | + 0·16 | +22·22 | +22·20 | 11 5 44·62 |
| | δ Hydræ & Crateris | 39·4 | 53·1 | 6·7 | 20·5 | 34·1 | 11 6·76 | + 0·32 | +22·16 | +22·20 | 11 11 29·28 |
| | Groombridge 1858 | 10·5 | 53·0 | 36·0 | 19·5 | 2·0 | 3 36·20 | − 1·69 | ……… | +22·20 | 12 3 56·71 |
| May 6 | α Tauri | 2·4 | 16·2 | 30·0 | 43·8 | 57·8 | 26 30·04 | + 0·16 | +22·34 | +22·33 | 4 26 52·53 |
| | α Leonis | 9·6 | 23·3 | 37·0 | 50·7 | 4·4 | 59 37·00 | + 0·17 | +22·28 | +22·32 | 9 59 59·49 |
| | δ Leonis | 53·7 | 7·9 | 22·2 | 36·5 | 50·7 | 5 22·20 | + 0·14 | +22·27 | +22·31 | 11 5 44·65 |
| | β Leonis | 12·5 | 26·3 | 40·0 | 54·0 | 7·7 | 40 40·10 | + 0·16 | +22·35 | +22·31 | 11 41 2·57 |
| | Groombridge 1858 | 9·7 | 52·5 | 35·5 | 19·0 | 1·5 | 3 35·64 | − 1·51 | ……… | +22·30 | 12 3 56·43 |
| | α Ursæ Minoris S.P. | 59·0 | 14·5 | 34·0 | 50·0 | 8·5 | 1 33·20 | + 8·63 | ……… | +22·30 | 13 2 4·13 |
| | Groombridge 1977 | 58·5 | 26·5 | 54·0 | 22·5 | 50·0 | 10 54·30 | − 1·24 | ……… | +22·30 | 13 11 15·36 |
| | α Virginis | 6·1 | 19·6 | 33·0 | 46·6 | 0·0 | 16 33·06 | + 0·26 | +22·40 | +22·30 | 13 16 55·62 |
| May 7 | α Ursæ Minoris S.P. | 59·5 | 17·0 | 35·0 | 51·5 | 9·0 | 1 34·40 | + 8·68 | ……… | +22·06 | 13 2 5·14 |
| | α Virginis | 6·6 | 20·0 | 33·4 | 47·0 | 0·3 | 16 33·46 | + 0·30 | +21·96 | +22·06 | 13 16 55·82 |
| | η Bootis | 22·5 | 36·6 | 50·6 | 4·7 | 18·8 | 46 50·64 | + 0·18 | +22·04 | +22·06 | 13 47 12·88 |
| | α Bootis | 40·1 | 54·1 | 8·2 | 22·3 | 36·5 | 8 8·24 | + 0·17 | +22·14 | +22·05 | 14 8 30·46 |
| May 12 | (a) Sun 1 Limb | 53·0 | 7·2 | 21·1 | 35·1 | 49·2 | 14 21·12 | + 0·17 | ……… | + 3·04 | 3 14 24·33 |
| | Venus 1 Limb | 4·8 | 19·2 | 33·7 | 48·1 | 2·3 | 27 33·62 | + 0·16 | ……… | + 3·14 | 4 27 36·92 |
| | δ Leonis | 12·2 | 26·5 | 40·7 | 55·0 | 9·3 | 5 40·74 | + 0·16 | + 3·65 | + 3·62 | 11 5 44·52 |
| | β Leonis | 31·1 | 45·0 | 58·7 | 12·6 | 26·4 | 40 58·76 | + 0·18 | + 3·62 | + 3·66 | 11 41 2·60 |
| | Groombridge 1858 | 27·5 | 10·5 | 53·0 | 37·0 | 20·0 | 3 53·60 | − 1·30 | ……… | + 3·70 | 12 3 56·00 |
| | α Ursæ Minoris S.P. | 22·0 | 38·5 | 56·0 | …… | …… | 1 55·68 | + 7·71 | ……… | + 3·80 | 13 2 7·19 |
| | α Virginis | 24·6 | 38·0 | 51·6 | 5·1 | 18·6 | 16 51·58 | + 0·27 | + 3·87 | + 3·82 | 13 16 55·67 |
| | 15 Bootis | 38·8 | 52·2 | 5·8 | 19·5 | 33·0 | 7 5·86 | + 0·20 | ……… | + 3·90 | 14 7 9·96 |
| | α Bootis | 58·3 | 12·3 | 26·5 | 40·7 | 54·7 | 8 26·50 | + 0·17 | + 3·86 | + 3·90 | 14 8 30·57 |
| | 103 Virginis | 22·8 | 36·1 | 49·4 | 2·8 | 16·1 | 13 49·44 | + 0·24 | ……… | + 3·90 | 14 13 53·58 |
| | A.S.C. 1636 | 52·1 | 5·6 | 19·0 | 32·4 | 45·7 | 16 18·96 | + 0·22 | ……… | + 3·90 | 14 16 23·08 |

(a) Transit Clock cleaned and replaced May 10.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| May 12 | σ Bootis | 16·3 | 31·8 | 47·1 | 2·7 | 18·0 | 27 47·18 | + 0·12 | ......... | + 3·91 | 14 27 51·21 |
| | 31 Bootis | 25·6 | 39·0 | 52·4 | 5·9 | 19·3 | 33 52·44 | + 0·21 | ......... | + 3·92 | 14 33 56·57 |
| | 34 Bootis | 58·1 | 13·0 | 27·8 | 42·8 | 57·8 | 36 27·90 | + 0·14 | ......... | + 3·92 | 14 36 31·96 |
| | 109 Virginis | 48·2 | 1·6 | 15·0 | 28·3 | 41·7 | 38 14·96 | + 0·23 | ......... | + 3·93 | 14 38 19·12 |
| | ξ Bootis | 37·0 | 51·1 | 5·2 | 19·4 | 33·5 | 44 5·24 | + 0·17 | ......... | + 3·93 | 14 44 9·34 |
| | 16 Libræ | 28·9 | 42·1 | 55·5 | 8·9 | 22·1 | 48 55·50 | + 0·25 | ......... | + 3·93 | 14 48 59·68 |
| | 44 Bootis, following | 54·5 | 14·6 | 34·4 | 54·5 | 14·3 | 58 34·46 | + 0·01 | ......... | + 3·94 | 14 58 38·41 |
| | β Libræ | 3·0 | 16·4 | 29·8 | 43·4 | 56·9 | 8 29·90 | + 0·26 | + 3·92 | + 3·95 | 15 8 34·11 |
| | 9 Serpentis | 59·4 | 13·1 | 27·0 | 40·8 | 54·7 | 18 27·00 | + 0·18 | ......... | + 3·95 | 15 18 31·13 |
| | θ Coronæ Borealis | 1·4 | 17·1 | 32·6 | 48·5 | 4·0 | 26 32·72 | + 0·12 | ......... | + 3·96 | 15 26 36·80 |
| | 16 Serpentis | 26·4 | 39·8 | 53·3 | 6·8 | 20·3 | 28 53·32 | + 0·20 | ......... | + 3·96 | 15 28 57·48 |
| | ϰ Serpentis | 53·2 | 7·0 | 20·6 | 34·5 | 48·0 | 34 20·66 | + 0·20 | ......... | + 3·97 | 15 34 24·83 |
| | 25 Serpentis | 28·3 | 41·5 | 54·7 | 8·1 | 21·5 | 37 54·82 | + 0·24 | ......... | + 3·98 | 15 37 59·04 |
| | ω Serpentis | 51·7 | 5·0 | 18·3 | 31·7 | 44·9 | 42 18·32 | + 0·23 | ......... | + 3·98 | 15 42 22·53 |
| | γ Serpentis | 40·9 | 54·8 | 8·5 | 22·3 | 36·2 | 49 8·54 | + 0·18 | ......... | + 3·99 | 15 49 12·71 |
| | 50 Libræ | 48·5 | 2·0 | 15·4 | 28·7 | 42·1 | 52 15·34 | + 0·26 | ......... | + 4·00 | 15 52 19·60 |
| | π Serpentis | 59·8 | 14·1 | 28·6 | 43·0 | 57·5 | 55 28·60 | + 0·15 | ......... | + 4·01 | 15 55 32·76 |
| | υ Herculis | 13·2 | 32·6 | 51·8 | 11·2 | 30·4 | 57 51·84 | + 0·03 | ......... | + 4·01 | 15 57 55·88 |
| | 47 Serpentis | 23·1 | 36·6 | 50·1 | 3·6 | 17·0 | 0 50·08 | + 0·21 | ......... | + 4·01 | 16 0 54·30 |
| | 9 Herculis | 59·1 | 12·2 | 25·5 | 39·0 | 52·4 | 5 25·64 | + 0·22 | ......... | + 4·02 | 16 5 29·88 |
| | A.S.C. 1865 | 9·4 | 22·7 | 36·0 | 49·5 | 2·8 | 8 36·08 | + 0·25 | ......... | + 4·03 | 16 8 40·36 |
| | γ Herculis | 28·0 | 42·0 | 56·0 | 10·1 | 24·3 | 14 56·08 | + 0·16 | ......... | + 4·04 | 16 15 0·28 |
| | ν Ophiuchi | 48·0 | 1·2 | 14·8 | 28·3 | 41·6 | 19 14·78 | + 0·26 | ......... | + 4·04 | 16 19 19·08 |
| May 15 | $\alpha^2$ Geminorum | 52·4 | 8·2 | 23·9 | 39·6 | 55·4 | 24 23·90 | + 0·09 | + 8·35 | + 8·33 | 7 24 32·32 |
| | α Canis Minoris | 27·7 | 41·1 | 54·4 | 7·8 | 21·2 | 30 54·44 | + 0·19 | + 8·36 | + 8·34 | 7 31 2·97 |
| | β Geminorum | 1·5 | 16·6 | 31·7 | 46·8 | 1·8 | 35 31·68 | + 0·11 | + 8·31 | + 8·35 | 7 35 40·14 |
| May 17 | Sun 1 Limb | 25·8 | 40·0 | 54·1 | 8·2 | 22·2 | 33 54·06 | + 0·13 | ......... | + 12·39 | 3 34 6·58 |
| | Sun 2 Limb | 40·5 | 54·6 | 8·4 | 22·7 | 36·8 | 36 8·60 | + 0·13 | ......... | + 12·39 | 3 36 21·12 |
| | Venus 1 Limb | 7·3 | 21·8 | 36·3 | 50·8 | 5·4 | 53 36·32 | + 0·10 | ......... | + 12·51 | 4 53 48·93 |
| | α Aurigæ | 11·7 | 30·9 | 50·1 | 9·2 | 28·2 | 4 50·02 | − 0·01 | ......... | + 12·53 | 5 5 2·54 |
| | ο Leonis | 4·8 | 18·2 | 31·7 | 45·4 | 58·8 | 32 31·78 | + 0·15 | ......... | + 12·96 | 9 32 44·89 |
| | ε Leonis | 12·5 | 26·8 | 41·5 | 56·1 | 10·7 | 36 41·52 | + 0·10 | + 12·97 | + 12·97 | 9 36 54·59 |
| | α Leonis | 19·0 | 32·6 | 46·3 | 0·0 | 13·5 | 59 46·28 | + 0·14 | + 12·90 | + 13·00 | 9 59 59·42 |
| | Moon 1 Limb | 50·1 | 3·9 | 17·7 | 31·5 | 45·1 | 2 17·66 | + 0·17 | ......... | + 13·00 | 10 2 30·83 |
| | ϱ Leonis | 51·5 | 5·0 | 18·6 | 32·0 | 45·5 | 24 18·52 | + 0·15 | ......... | + 13·04 | 10 24 31·71 |
| | δ Leonis | 2·6 | 17·1 | 31·4 | 45·7 | 59·9 | 5 31·34 | + 0·12 | + 13·03 | + 13·10 | 11 5 44·56 |
| May 21 | Sun 1 Limb | 13·0 | 27·1 | 41·4 | 55·7 | 9·8 | 49 41·40 | + 0·17 | ......... | + 20·88 | 3 50 2·45 |
| | Sun 2 Limb | 27·9 | 42·3 | 56·5 | 10·7 | ...... | 51 56·45 | + 0·17 | ......... | + 20·88 | 3 52 17·50 |
| | α Ursæ Minoris S.P. | ...... | 26·0 | 43·0 | 59·0 | 17·0 | 1 42·57 | + 8·68 | ......... | + 21·54 | 13 2 12·79 |
| | 53 Virginis | 53·4 | 7·1 | 20·8 | 34·6 | 48·4 | 3 20·86 | + 0·31 | ......... | + 21·54 | 13 3 42·71 |
| | Groombridge 1977 | 58·5 | 26·0 | 54·0 | 22·0 | 49·5 | 10 54·00 | − 1·11 | ......... | + 21·55 | 13 11 14·44 |
| | α Virginis | 6·9 | 20·4 | 33·9 | 47·3 | 0·8 | 16 33·86 | + 0·30 | + 21·54 | + 21·56 | 13 16 55·72 |
| | Moon 1 Limb | 33·4 | 47·3 | 1·9 | 16·0 | 30·1 | 37 1·74 | + 0·31 | ......... | + 21·58 | 13 37 23·63 |
| | η Bootis | 23·0 | 36·9 | 50·9 | 5·2 | 19·4 | 46 51·08 | + 0·18 | + 21·59 | + 21·59 | 13 47 12·85 |
| | α Bootis | 40·7 | 54·8 | 8·7 | 22·9 | 37·0 | 8 8·82 | + 0·17 | + 21·57 | + 21·62 | 14 8 30·61 |
| | λ Virginis | 48·0 | 1·8 | 15·5 | 29·1 | 42·8 | 10 15·44 | + 0·31 | ......... | + 21·62 | 14 10 37·37 |
| | 103 Virginis | 5·0 | 18·6 | 32·0 | 45·3 | 58·4 | 13 31·86 | + 0·26 | ......... | + 21·62 | 14 13 53·74 |
| | A.S.C. 1636 | 34·3 | 47·8 | 1·1 | 14·5 | 27·8 | 16 1·10 | + 0·23 | ......... | + 21·63 | 14 16 22·96 |
| | 31 Bootis | 7·8 | 21·3 | 34·9 | 48·2 | 1·5 | 33 34·74 | + 0·22 | ......... | + 21·64 | 14 33 56·60 |
| | 34 Bootis | 40·5 | 55·1 | 10·0 | 25·0 | 40·0 | 36 10·12 | + 0·14 | ......... | + 21·64 | 14 36 31·90 |
| | ε Bootis | 16·2 | 31·4 | 46·4 | 1·6 | 16·5 | 37 46·42 | + 0·14 | + 21·90 | + 21·64 | 14 38 8·20 |
| | ξ Bootis | 19·3 | 33·5 | 47·7 | 1·8 | 15·9 | 43 47·64 | + 0·17 | ......... | + 21·65 | 14 44 9·46 |
| | β Ursæ Minoris | 17·0 | 7·6 | 58·2 | 49·0 | 39·8 | 50 58·32 | − 0·57 | ......... | + 21·65 | 14 51 19·40 |
| | 44 Bootis, following | 36·8 | 56·8 | 16·9 | 36·8 | 56·7 | 58 16·80 | + 0·01 | ......... | + 21·65 | 14 58 38·46 |
| | β Libræ | 45·2 | 58·7 | 12·1 | 25·6 | 39·1 | 8 12·14 | + 0·29 | + 21·73 | + 21·66 | 15 8 34·09 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| May 21 | 9 Serpentis | 41·5 | 55·4 | 9·1 | 23·0 | 36·7 | 18 9·14 | + 0·20 | ......... | +21·67 | 15 18 31·01 |
| | ι Draconis | 15·2 | 41·5 | 7·8 | 34·0 | 0·2 | 21 7·74 | − 0·12 | ......... | +21·67 | 15 21 29·29 |
| | θ Coronæ Borealis | 43·7 | 59·1 | 14·8 | 30·6 | 46·1 | 26 14·86 | + 0·12 | ......... | +21·68 | 15 26 36·66 |
| | 16 Serpentis | 8·6 | 22·0 | 35·5 | 49·0 | 2·7 | 28 35·56 | + 0·22 | ......... | +21·68 | 15 28 57·46 |
| | β Serpentis | 7·5 | 21·2 | 35·0 | 49·0 | 2·8 | 38 35·10 | + 0·20 | ......... | +21·69 | 15 38 56·99 |
| May 22 | 3 Ursæ Minoris | 42·3 | 35·0 | 27·3 | 19·8 | 12·4 | 5 27·36 | − 0·57 | ......... | +23·84 | 14 5 50·63 |
| | α Bootis | ...... | 52·5 | 6·6 | 20·8 | 34·9 | 8 6·63 | + 0·16 | +23·77 | +23·85 | 14 8 30·64 |
| | λ Virginis | 46·2 | 59·7 | 13·5 | 27·1 | 40·7 | 10 13·44 | + 0·28 | ......... | +23·85 | 14 10 37·57 |
| | 103 Virginis | 3·1 | 16·4 | 29·6 | 42·9 | 56·2 | 13 29·64 | + 0·24 | ......... | +23·86 | 14 13 53·74 |
| | A.S.C. 1636 | 32·3 | 45·5 | 59·0 | 12·4 | 25·8 | 15 59·00 | + 0·21 | ......... | +23·86 | 14 16 23·07 |
| | σ Bootis | 56·4 | 11·9 | 27·3 | 42·8 | 58·1 | 27 27·30 | + 0·12 | ......... | +23·88 | 14 27 51·30 |
| | ε Bootis | 14·3 | 29·4 | 44·3 | 59·3 | 14·4 | 37 44·34 | + 0·13 | +23·99 | +23·90 | 14 38 8·37 |
| | 16 Libræ | 9·0 | 22·2 | 35·6 | 48·9 | 2·1 | 48 35·56 | + 0·25 | ......... | +23·91 | 14 48 59·72 |
| | 44 Bootis, following | 34·8 | 54·6 | 14·7 | 34·6 | 54·6 | 58 14·66 | + 0·01 | ......... | +23·92 | 14 58 38·59 |
| | β Libræ | 43·2 | 56·5 | 10·0 | 23·5 | 36·8 | 8 10·00 | + 0·27 | +23·89 | +23·93 | 15 8 34·20 |
| | ι Draconis | 13·3 | 39·4 | 5·5 | 31·7 | 58·0 | 21 5·58 | − 0·12 | ......... | +23·95 | 15 21 29·41 |
| May 23 | Mercury 1 Limb | 34·7 | 49·5 | 4·1 | 18·8 | 33·6 | 0 4·14 | + 0·12 | ......... | +25·05 | 5 0 29·31 |
| | α Aurigæ | 59·5 | 18·5 | 37·6 | 56·7 | 15·7 | 4 37·60 | + 0·01 | ......... | +25·05 | 5 5 2·66 |
| | η Bootis | 18·6 | 32·5 | 46·6 | 0·8 | 14·8 | 46 46·66 | + 0·15 | +26·03 | +26·08 | 13 47 12·89 |
| | $\alpha^2$ Libræ | 18·6 | 32·0 | 45·8 | 59·8 | 13·6 | 41 45·96 | + 0·27 | +26·16 | +26·19 | 14 42 12·42 |
| | 16 Libræ | 6·8 | 20·1 | 33·4 | 46·8 | 0·1 | 48 33·44 | + 0·23 | ......... | +26·20 | 14 48 59·87 |
| | Moon 1 Limb | 14·2 | 29·6 | 44·6 | 59·8 | 14·8 | 33 44·60 | + 0·30 | ......... | +26·29 | 15 34 11·19 |
| | α Serpentis | 39·6 | 53·0 | 6·2 | 19·5 | 33·0 | 36 6·26 | + 0·19 | +26·24 | +26·30 | 15 36 32·75 |
| | β Serpentis | 3·2 | 17·0 | 30·7 | 44·7 | 58·3 | 38 30·78 | + 0·16 | ......... | +26·30 | 15 38 57·24 |
| | ω Serpentis | 29·6 | 43·0 | 56·3 | 9·6 | 22·9 | 41 56·28 | + 0·21 | ......... | +26·31 | 15 42 22·80 |
| | ϱ Serpentis | 28·0 | 42·4 | 56·6 | 10·8 | 25·2 | 43 56·60 | + 0·13 | ......... | +26·31 | 15 44 23·04 |
| | 5 Herculis | 17·5 | 31·3 | 45·2 | 59·2 | 13·4 | 53 45·32 | + 0·15 | ......... | +26·33 | 15 54 11·80 |
| | 47 Serpentis | 1·1 | 14·4 | 27·9 | 41·5 | 55·0 | 0 27·98 | + 0·18 | ......... | +26·34 | 16 0 54·50 |
| | 17 Herculis | 40·5 | 55·0 | 9·6 | 23·9 | 38·2 | 9 9·44 | + 0·25 | ......... | +26·36 | 16 9 36·05 |
| | α Scorpii | ...... | 6·2 | 21·0 | 35·7 | 50·6 | 19 20·98 | + 0·31 | +26·48 | +26·38 | 16 19 47·67 |
| May 25 | δ Leonis | 45·6 | 59·9 | 14·1 | 28·5 | 42·7 | 5 14·16 | + 0·09 | +30·14 | +30·24 | 11 5 44·49 |
| | β Leonis | 4·6 | 18·3 | 32·0 | 45·8 | 59·7 | 40 32·08 | + 0·11 | +30·24 | +30·31 | 11 41 2·50 |
| | 12 Canum Venat. | 36·2 | 53·3 | 10·4 | 27·6 | 44·8 | 48 10·46 | + 0·01 | ......... | +30·44 | 12 48 40·91 |
| | α Virginis | 58·0 | 11·4 | 24·9 | 38·6 | 52·0 | 16 24·98 | + 0·20 | +30·50 | +30·48 | 13 16 55·66 |
| | A.S.C. 1632 | 42·3 | 55·7 | 9·2 | 22·7 | 36·1 | 15 9·20 | + 0·13 | ......... | +30·60 | 14 15 39·93 |
| | Groombridge 2213 | 19·0 | 39·5 | 0·0 | 20·5 | 40·5 | 7 59·90 | − 1·93 | ......... | +30·68 | 15 8 28·65 |
| | μ Bootis | 30·1 | 47·0 | 3·8 | 20·8 | 37·7 | 18 3·88 | + 0·02 | ......... | +30·69 | 15 18 34·59 |
| | κ Coronæ Borealis | 16·4 | 32·8 | 49·2 | 5·7 | 22·0 | 44 49·22 | + 0·02 | ......... | +30·73 | 15 45 19·97 |
| | γ Serpentis | 14·2 | 28·1 | 41·9 | 55·8 | 9·7 | 48 41·94 | + 0·11 | ......... | +30·74 | 15 49 12·79 |
| | 3 Herculis | 6·7 | 20·0 | 33·2 | 46·6 | 0·0 | 52 33·30 | + 0·14 | ......... | +30·75 | 15 53 4·19 |
| | π Serpentis | 33·1 | 47·7 | 2·0 | 16·6 | 30·9 | 55 2·06 | + 0·09 | ......... | +30·75 | 15 55 32·90 |
| | υ Herculis | 46·8 | 5·9 | 25·2 | 44·6 | 3·9 | 57 25·28 | − 0·04 | ......... | +30·75 | 15 57 55·99 |
| | $\kappa^1$ Herculis | 1·3 | 15·2 | 29·0 | 43·0 | 56·9 | 0 29·08 | + 0·10 | ......... | +30·76 | 16 0 59·94 |
| | 9 Herculis | 32·4 | 45·8 | 59·0 | 12·5 | 25·8 | 4 59·10 | + 0·14 | ......... | +30·77 | 16 5 30·01 |
| | A.S.C. 1865 | 42·8 | 56·1 | 9·5 | 22·8 | 36·2 | 8 9·48 | + 0·18 | ......... | +30·77 | 16 8 40·43 |
| | γ Herculis | 1·3 | 15·5 | 29·6 | 43·6 | 57·7 | 14 29·54 | + 0·10 | ......... | +30·78 | 16 15 0·42 |
| | α Herculis | 31·6 | 45·1 | 58·9 | 12·7 | 26·3 | 6 58·92 | + 0·11 | +30·94 | +30·87 | 17 7 29·90 |
| May 27 | Sun 1 Limb | 8·5 | 22·8 | 37·0 | 51·2 | 5·5 | 13 37·00 | + 0·03 | ......... | +34·11 | 4 14 11·14 |
| | Venus 1 Limb | 57·4 | 12·0 | 26·8 | 41·4 | 55·9 | 46 26·70 | + 0·01 | ......... | +34·26 | 5 47 0·97 |
| | $\alpha^2$ Geminorum | 26·4 | 42·0 | 57·8 | 13·6 | 29·2 | 23 57·80 | − 0·01 | +34·46 | +34·44 | 7 24 32·23 |
| | 12 Canum Venat. | 31·6 | 48·8 | 6·0 | 23·1 | 40·3 | 48 5·96 | − 0·04 | ......... | +35·05 | 12 48 40·97 |
| | α Ursæ Minoris S.P. | 2·0 | 20·0 | 36·0 | 52·0 | 9·0 | 1 35·80 | + 5·98 | ......... | +35·07 | 13 2 16·85 |
| | α Virginis | 53·5 | 7·0 | 20·6 | 34·2 | 47·6 | 16 20·58 | + 0·11 | +34·99 | +35·10 | 13 16 55·79 |
| | η Bootis | 9·5 | 23·6 | 37·5 | 51·7 | 5·8 | 46 37·62 | + 0·03 | +35·17 | +35·14 | 13 47 12·79 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| May 27 | A.S.C. 1621 | 38·4 | 52·5 | 6·5 | 20·7 | 34·7 | 8 6·56 | + 0·03 | ......... | +35·18 | 14 8 41·77 |
| | A.S.C. 1632 | 37·8 | 51·3 | 4·8 | 18·2 | 31·6 | 15 4·74 | + 0·06 | ......... | +35·19 | 14 15 39·99 |
| | σ Bootis | 45·2 | 0·8 | 16·1 | 31·6 | 46·9 | 27 16·12 | 0·00 | ......... | +35·21 | 14 27 51·33 |
| | 31 Bootis | 54·6 | 8·0 | 21·4 | 34·9 | 48·2 | 33 21·42 | + 0·06 | ......... | +35·22 | 14 33 56·70 |
| | 34 Bootis | 27·0 | 42·0 | 56·9 | 11·9 | 26·8 | 35 56·92 | + 0·01 | ......... | +35·23 | 14 36 32·16 |
| | 109 Virginis | 17·3 | 30·7 | 43·9 | 57·3 | 10·6 | 37 43·96 | + 0·08 | ......... | +35·24 | 14 38 19·28 |
| | $\alpha^2$ Libræ | 9·5 | 23·2 | 37·0 | 50·8 | 4·5 | 41 37·00 | + 0·13 | +35·27 | +35·25 | 14 42 12·38 |
| | ξ Bootis | 6·0 | 20·1 | 34·1 | 48·3 | 2·5 | 43 34·20 | + 0·03 | ......... | +35·26 | 14 44 9·49 |
| | β Ursæ Minoris | 3·5 | 54·0 | 44·5 | 35·5 | 26·0 | 50 44·70 | − 0·49 | ......... | +35·28 | 14 51 19·49 |
| | Groombridge 2213 | 15·5 | 35·5 | 55·0 | 16·0 | 36·0 | 7 55·60 | − 1·56 | ......... | +35·31 | 15 8 29·35 |
| | μ Bootis | 25·9 | 42·4 | 59·5 | 16·2 | 33·0 | 17 59·40 | − 0·03 | ......... | +35·33 | 15 18 34·70 |
| | θ Coronæ Borealis | 30·2 | 45·9 | 1·7 | 17·2 | 33·0 | 26 1·60 | − 0·01 | ......... | +35·34 | 15 26 36·93 |
| | 16 Serpentis | 55·2 | 8·7 | 22·2 | 35·8 | 49·2 | 28 22·22 | + 0·06 | ......... | +35·35 | 15 28 57·63 |
| | χ Serpentis | 22·1 | 35·8 | 49·6 | 3·1 | 16·8 | 33 49·48 | + 0·05 | ......... | +35·36 | 15 34 24·89 |
| | ψ Serpentis | 6·9 | 20·1 | 33·3 | 46·7 | 0·1 | 35 33·42 | + 0·08 | ......... | +35·36 | 15 36 8·86 |
| | 25 Serpentis | 57·1 | 10·5 | 23·8 | 37·0 | 50·2 | 37 23·72 | + 0·08 | ......... | +35·37 | 15 37 59·17 |
| | ε Serpentis | 58·0 | 11·4 | 24·7 | 38·0 | 51·1 | 42 24·64 | + 0·07 | ......... | +35·37 | 15 43 0·08 |
| | κ Coronæ Borealis | 12·0 | 28·4 | 44·8 | 1·2 | 17·7 | 44 44·82 | − 0·02 | ......... | +35·38 | 15 45 20·18 |
| | γ Serpentis | 9·8 | 23·4 | 37·3 | 51·3 | 5·0 | 48 37·36 | + 0·04 | ......... | +35·38 | 15 49 12·78 |
| | 50 Libræ | 17·5 | 31·0 | 44·4 | 57·9 | 11·1 | 51 44·38 | + 0·10 | ......... | +35·39 | 15 52 19·87 |
| | π Serpentis | 28·7 | 43·0 | 57·5 | 12·0 | 26·5 | 54 57·54 | + 0·02 | ......... | +35·39 | 15 55 32·95 |
| | υ Herculis | 42·2 | 1·5 | 20·8 | 40·1 | 59·3 | 57 20·78 | − 0·07 | ......... | +35·40 | 15 57 56·11 |
| | $\kappa^1$ Herculis | 57·0 | 11·0 | 24·8 | 38·8 | 52·6 | 0 24·84 | + 0·03 | ......... | +35·40 | 16 1 0·27 |
| | 9 Herculis | 28·0 | 41·1 | 54·5 | 8·0 | 21·4 | 4 54·60 | + 0·07 | ......... | +35·41 | 16 5 30·08 |
| | A.S.C. 1865 | 38·5 | 51·7 | 5·0 | 18·3 | 31·7 | 8 5·04 | + 0·09 | ......... | +35·42 | 16 8 40·55 |
| | ε Ophiuchi | 59·5 | 12·6 | 26·0 | 39·5 | 52·8 | 9 26·08 | + 0·10 | ......... | +35·42 | 16 10 1·60 |
| | υ Ophiuchi | 17·0 | 30·3 | 43·7 | 57·1 | 10·5 | 18 43·72 | + 0·11 | ......... | +35·43 | 16 19 19·26 |
| May 28 | Sun 1 Limb | ...... | 23·7 | 38·0 | 52·2 | 6·6 | 17 37·97 | + 0·11 | ......... | +36·42 | 4 18 14·50 |
| | Sun 2 Limb | 25·4 | 39·7 | 54·0 | 8·4 | 22·5 | 19 54·00 | + 0·11 | ......... | +36·42 | 4 20 30·53 |
| | β Leonis | 57·7 | 11·5 | 25·2 | 39·0 | 52·7 | 40 25·22 | + 0·13 | +37·05 | +37·23 | 11 41 2·58 |
| | 12 Canum Venat. | 29·4 | 46·5 | 3·6 | 20·7 | 37·9 | 48 3·62 | + 0·02 | ......... | +37·25 | 12 48 40·89 |
| | α Ursæ Minoris S.P. | 58·5 | ...... | 33·5 | 49·0 | 6·5 | 1 32·32 | + 8·28 | ......... | +37·27 | 13 2 17·87 |
| | Groombridge 1977 | 42·0 | 9·0 | 37·0 | 5·0 | 33·5 | 10 37·30 | − 1·22 | ......... | +37·29 | 13 11 13·37 |
| | α Virginis | 51·3 | 4·7 | 18·3 | 31·7 | 45·3 | 16 18·26 | + 0·23 | +37·18 | +37·30 | 13 16 55·79 |
| | η Bootis | 7·1 | 21·1 | 35·3 | 49·3 | 3·5 | 46 35·26 | + 0·12 | +37·43 | +37·35 | 13 47 12·73 |
| | 3 Ursæ Minoris | 28·7 | 21·2 | 13·0 | 6·0 | 58·5 | 5 13·48 | − 0·63 | ......... | +37·38 | 14 5 50·23 |
| | α Bootis | ...... | 38·9 | 53·0 | 7·0 | 21·2 | 7 52·96 | + 0·12 | +37·47 | +37·39 | 14 8 30·47 |
| | A.S.C. 1632 | 35·6 | 49·0 | 2·4 | 15·9 | 29·2 | 15 2·42 | + 0·16 | ......... | +37·40 | 14 15 39·98 |
| | 32 Bootis | 6·8 | 20·2 | 33·8 | 47·7 | 1·1 | 33 33·92 | + 0·15 | ......... | +37·44 | 14 34 11·51 |
| | 35 Bootis | 50·0 | 4·0 | 17·9 | 32·0 | 45·7 | 37 17·92 | + 0·12 | ......... | +37·45 | 14 37 55·49 |
| | β Ursæ Minoris | 1·0 | 51·6 | 42·3 | 33·2 | 23·7 | 50 42·36 | − 0·60 | ......... | +37·47 | 14 51 19·23 |
| | Groombridge 2213 | 13·5 | 33·5 | 53·5 | 14·0 | 33·5 | 7 53·60 | − 2·08 | ......... | +37·50 | 15 8 29·02 |
| | μ Bootis | 23·5 | 40·0 | 57·1 | 14·0 | 30·9 | 17 57·10 | + 0·03 | ......... | +37·52 | 15 18 34·65 |
| | δ Serpentis, following | 14·0 | 27·5 | 41·1 | 54·6 | 8·1 | 26 41·06 | + 0·15 | ......... | +37·54 | 15 27 18·75 |
| | μ Coronæ Borealis | 18·3 | 35·6 | 52·8 | 10·0 | 27·4 | 28 52·82 | + 0·01 | ......... | +37·54 | 15 29 30·37 |
| | χ Serpentis | 19·9 | 33·5 | 47·0 | 0·6 | 14·4 | 33 47·08 | + 0·14 | ......... | +37·55 | 15 34 24·77 |
| | ψ Serpentis | 4·6 | 17·8 | 31·1 | 44·5 | 57·7 | 35 31·14 | + 0·17 | ......... | +37·56 | 15 36 8·87 |
| | β Serpentis | 51·9 | 5·8 | 19·5 | 33·3 | 47·0 | 38 19·50 | + 0·13 | ......... | +37·56 | 15 38 57·19 |
| | ε Serpentis | 55·8 | 9·0 | 22·2 | 35·6 | 49·0 | 42 22·32 | + 0·17 | ......... | +37·57 | 15 43 0·06 |
| | κ Coronæ Borealis | 9·7 | 26·1 | 42·6 | 59·1 | 15·4 | 44 42·58 | + 0·04 | ......... | +37·58 | 15 45 20·20 |
| | 50 Libræ | 15·2 | 28·5 | 42·0 | 55·5 | 9·0 | 51 42·04 | + 0·21 | ......... | +37·59 | 15 52 19·84 |
| | 5 Herculis | 6·2 | 20·0 | 34·0 | 48·0 | 2·1 | 53 34·06 | + 0·12 | ......... | +37·60 | 15 54 11·78 |
| | 43 Serpentis | 56·1 | 9·5 | 22·8 | 36·1 | 49·5 | 55 22·80 | + 0·17 | ......... | +37·61 | 15 56 0·58 |
| | $\kappa^1$ Herculis | 54·6 | 8·7 | 22·4 | 36·5 | 50·1 | 0 22·46 | + 0·12 | ......... | +37·62 | 16 1 0·20 |
| | 17 Herculis | 29·3 | 43·8 | 58·2 | 12·6 | 27·1 | 8 58·20 | + 0·22 | ......... | +37·63 | 16 9 36·05 |
| May 30 | Sun 1 Limb | 12·6 | 26·9 | 41·2 | 55·6 | 9·9 | 25 41·24 | + 0·10 | ......... | +41·08 | 4 26 22·42 |
| | Sun 2 Limb | 28·8 | 43·2 | 57·5 | 11·8 | 26·3 | 27 57·52 | + 0·10 | ......... | +41·08 | 4 28 38·70 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. |  | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  |  | observed. | interpolated. |  |  |  |
|  |  | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| May 30 | Venus 1 Limb | 54·7 | 9·1 | 23·8 | 38·5 | 53·0 | 2 | 23·82 | + 0·08 | ……… | +41·19 | 6 | 3 | 5·09 |
|  | α Leonis | 50·1 | 3·8 | 17·5 | 31·1 | 44·8 | 59 | 17·46 | + 0·14 | +41·57 | +41·56 | 9 | 59 | 59·16 |
|  | δ Leonis | 34·1 | 48·3 | 2·6 | 16·8 | 31·0 | 5 | 2·56 | + 0·10 | +41·67 | +41·64 | 11 | 5 | 44·30 |
|  | β Leonis | 52·9 | 6·7 | 20·5 | 34·2 | 48·1 | 40 | 20·48 | + 0·12 | +41·78 | +41·71 | 11 | 41 | 2·31 |
|  | 12 Canum Venat | 24·7 | 41·8 | 58·8 | 16·0 | 33·1 | 47 | 58·88 | + 0·01 | ……… | +41·85 | 12 | 48 | 40·74 |
|  | α Ursæ Minoris S.P. | 54·0 | 11·0 | 29·0 | 44·5 | 3·5 | 1 | 28·40 | + 8·59 | ……… | +41·88 | 13 | 2 | 18·87 |
|  | Groombridge 1977 | 37·2 | 4·4 | 32·6 | 0·6 | 28·2 | 10 | 32·60 | − 1·28 | ……… | +41·89 | 13 | 11 | 13·21 |
|  | α Virginis | 46·4 | 0·0 | 13·6 | 27·0 | 40·5 | 16 | 13·50 | + 0·22 | +41·94 | +41·90 | 13 | 16 | 55·62 |
|  | η Bootis | 2·5 | 16·6 | 30·7 | 44·7 | 58·8 | 46 | 30·66 | + 0·11 | +42·04 | +41·96 | 13 | 47 | 12·73 |
|  | A.S.C. 1621 | 31·3 | 45·4 | 59·6 | 13·7 | 27·8 | 7 | 59·56 | + 0·11 | ……… | +42·02 | 14 | 8 | 41·69 |
|  | 32 Bootis | 2·1 | 15·7 | 29·3 | 42·9 | 56·5 | 33 | 29·30 | + 0·14 | ……… | +42·07 | 14 | 34 | 11·51 |
|  | 109 Virginis | 10·2 | 23·6 | 37·0 | 50·4 | 3·7 | 37 | 36·98 | + 0·17 | ……… | +42·08 | 14 | 38 | 19·23 |
|  | β Ursæ Minoris | 56·0 | 46·8 | 37·3 | 28·3 | 19·0 | 50 | 37·48 | − 0·63 | ……… | +42·09 | 14 | 51 | 18·94 |
|  | Groombridge 2213 | 8·0 | 28·0 | 48·0 | 8·5 | 28·5 | 7 | 48·20 | − 2·17 | ……… | +42·12 | 15 | 8 | 28·15 |
|  | $\gamma^2$ Ursæ Minoris | 56·8 | 40·5 | 24·6 | 8·3 | 52·3 | 20 | 24·50 | − 0·52 | ……… | +42·14 | 15 | 21 | 6·12 |
|  | μ Coronæ Borealis | 13·5 | 31·0 | 48·2 | 5·5 | 22·8 | 28 | 48·20 | 0·00 | ……… | +42·15 | 15 | 29 | 30·35 |
|  | ι Serpentis | 23·2 | 37·2 | 51·4 | 5·8 | 19·9 | 33 | 51·50 | + 0·10 | ……… | +42·16 | 15 | 34 | 33·76 |
|  | ψ Serpentis | 0·0 | 13·3 | 26·6 | 39·9 | 53·2 | 35 | 26·60 | + 0·17 | ……… | +42·17 | 15 | 36 | 8·94 |
|  | 25 Serpentis | 50·2 | 3·5 | 16·7 | 30·0 | 43·4 | 37 | 16·76 | + 0·19 | ……… | +42·18 | 15 | 37 | 59·13 |
|  | ε Serpentis | 51·1 | 4·5 | 17·8 | 31·1 | 44·6 | 42 | 17·82 | + 0·17 | ……… | +42·19 | 15 | 43 | 0·18 |
|  | ζ Ursæ Minoris | 3·5 | 9·0 | 14·5 | 19·8 | 25·0 | 49 | 14·36 | − 0·90 | ……… | +42·19 | 15 | 49 | 55·65 |
|  | 43 Serpentis | 51·7 | 5·0 | 18·3 | 31·6 | 45·0 | 55 | 18·32 | + 0·17 | ……… | +42·20 | 15 | 56 | 0·69 |
|  | $\chi^1$ Herculis | 50·0 | 4·0 | 17·8 | 31·9 | 45·8 | 0 | 17·90 | + 0·11 | ……… | +42·20 | 16 | 1 | 0·21 |
|  | 18 Scorpii | 56·7 | 10·0 | 23·6 | 37·0 | 50·5 | 6 | 23·56 | + 0·21 | ……… | +42·21 | 16 | 7 | 5·98 |
|  | 17 Herculis | 24·3 | 38·8 | 53·4 | 8·0 | 22·5 | 8 | 53·40 | + 0·09 | ……… | +42·21 | 16 | 9 | 35·70 |
|  | ξ Coronæ Borealis | 46·4 | 1·9 | 17·3 | 32·9 | 48·4 | 15 | 17·38 | + 0·06 | ……… | +42·22 | 16 | 15 | 59·66 |
|  | 51 Serpentis | 0·8 | 14·8 | 28·6 | 42·2 | 56·0 | 17 | 28·48 | + 0·13 | ……… | +42·22 | 16 | 18 | 10·83 |
|  | ζ Ophiuchi | 22·1 | 35·3 | 49·0 | 2·5 | 16·0 | 27 | 48·98 | + 0·22 | ……… | +42·24 | 16 | 28 | 31·44 |
| May 31 | Sun 1 Limb | 15·0 | 29·4 | 43·8 | 58·1 | 12·6 | 29 | 43·78 | + 0·08 | ……… | +43·34 | 4 | 30 | 27·20 |
|  | Sun 2 Limb | 31·4 | 45·6 | 0·1 | 14·5 | 28·8 | 32 | 0·08 | + 0·08 | ……… | +43·34 | 4 | 32 | 43·50 |
|  | α Leonis | 48·0 | 1·6 | 15·1 | 28·9 | 42·5 | 59 | 15·22 | + 0·11 | +43·83 | +43·85 | 9 | 59 | 59·18 |
|  | δ Leonis | 31·8 | 46·1 | 0·4 | 14·7 | 28·9 | 5 | 0·38 | + 0·08 | +43·86 | +43·96 | 11 | 5 | 44·42 |
|  | β Leonis | 50·8 | 4·5 | 18·3 | 32·1 | 45·8 | 40 | 18·30 | + 0·10 | +43·97 | +44·02 | 11 | 41 | 2·42 |
|  | 12 Canum Venat. | 22·4 | 39·4 | 56·6 | 13·8 | 31·0 | 47 | 56·64 | − 0·01 | ……… | +44·12 | 12 | 48 | 40·75 |
|  | α Ursæ Minoris S.P. | 53·5 | 9·5 | 27·5 | 44·0 | 0·0 | 1 | 26·90 | + 8·46 | ……… | +44·14 | 13 | 2 | 19·50 |
|  | α Virginis | 44·3 | 57·8 | 11·2 | 24·6 | 38·2 | 16 | 11·22 | + 0·20 | +44·24 | +44·16 | 13 | 16 | 55·58 |
|  | A.S.C. 1621 | 29·1 | 43·1 | 57·4 | 11·5 | 25·6 | 7 | 57·34 | + 0·08 | ……… | +44·22 | 14 | 8 | 41·64 |
|  | $\gamma^2$ Ursæ Minoris | 54·3 | 38·6 | 22·2 | 6·3 | 50·0 | 20 | 22·28 | − 0·52 | ……… | +44·33 | 15 | 21 | 6·09 |
|  | μ Coronæ Borealis | 11·6 | 28·8 | 46·0 | 3·3 | 20·4 | 28 | 46·02 | − 0·01 | ……… | +44·34 | 15 | 29 | 30·35 |
|  | ι Serpentis | 21·0 | 35·2 | 49·4 | 3·5 | 17·7 | 33 | 49·36 | + 0·08 | ……… | +44·35 | 15 | 34 | 33·79 |
|  | γ Coronæ Borealis | 55·6 | 10·5 | 25·5 | 40·3 | 55·1 | 35 | 25·40 | + 0·05 | ……… | +44·35 | 15 | 36 | 9·80 |
|  | λ Serpentis | 38·7 | 52·2 | 5·8 | 19·1 | 32·5 | 38 | 5·66 | + 0·14 | ……… | +44·36 | 15 | 38 | 50·16 |
|  | 36 Serpentis | 54·5 | 7·8 | 21·1 | 34·5 | 47·8 | 42 | 21·14 | + 0·17 | ……… | +44·37 | 15 | 43 | 5·68 |
|  | ζ Ursæ Minoris | 1·6 | 6·8 | 12·0 | 18·0 | 23·0 | 49 | 12·28 | − 0·90 | ……… | +44·38 | 15 | 49 | 55·76 |
|  | 5 Herculis | 59·4 | 13·5 | 27·5 | 41·4 | 55·2 | 53 | 27·40 | + 0·09 | ……… | +44·39 | 15 | 54 | 11·88 |
|  | 43 Serpentis | 49·4 | 2·8 | 16·1 | 29·5 | 42·8 | 55 | 16·12 | + 0·14 | ……… | +44·40 | 15 | 56 | 0·66 |
|  | 18 Scorpii | 54·3 | 7·8 | 21·2 | 34·6 | 48·0 | 6 | 21·18 | + 0·19 | ……… | +44·41 | 16 | 7 | 5·78 |
|  | ε Ophiuchi | 50·2 | 3·6 | 16·8 | 30·1 | 43·5 | 9 | 16·84 | + 0·18 | ……… | +44·41 | 16 | 10 | 1·43 |
|  | γ Herculis | 47·7 | 1·8 | 15·8 | 30·0 | 44·1 | 14 | 15·88 | + 0·08 | ……… | +44·42 | 16 | 15 | 0·38 |
|  | 51 Serpentis | 59·0 | 12·6 | 26·4 | 40·1 | 53·7 | 17 | 26·36 | + 0·11 | ……… | +44·42 | 16 | 18 | 10·89 |
|  | 25 Herculis | 31·9 | 48·5 | 5·1 | 22·0 | 38·8 | 19 | 5·26 | − 0·01 | ……… | +44·43 | 16 | 19 | 49·68 |
|  | β Herculis | 16·0 | 30·1 | 44·3 | 58·8 | 13·0 | 22 | 44·44 | + 0·07 | ……… | +44·43 | 16 | 23 | 28·94 |
|  | 29 Herculis | 4·6 | 18·1 | 31·5 | 45·1 | 58·8 | 24 | 31·62 | + 0·11 | ……… | +44·44 | 16 | 25 | 16·17 |
|  | ζ Ophiuchi | 19·9 | 33·4 | 46·7 | 0·2 | 14·0 | 27 | 46·84 | + 0·20 | ……… | +44·44 | 16 | 28 | 31·48 |
| June 1 | η Bootis | 58·3 | 12·2 | 26·4 | 40·5 | 54·6 | 46 | 26·40 | + 0·07 | +46·32 | +46·43 | 13 | 47 | 12·90 |
|  | 3 Ursæ Minoris | 19·4 | 11·7 | 4·2 | 56·8 | 49·2 | 5 | 4·26 | − 0·01 | ……… | +46·45 | 14 | 5 | 50·70 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 1 | α Bootis | 15·5 | 29·6 | 43·9 | 58·1 | 12·2 | 7 43·86 | + 0·07 | +46·60 | +46·45 | 14 8 30·38 |
| | 32 Bootis | 57·9 | 11·4 | 25·0 | 38·6 | 52·2 | 33 25·02 | + 0·10 | ········· | +46·48 | 14 34 11·60 |
| | 35 Bootis | 41·1 | 55·0 | 9·0 | 23·0 | 36·8 | 37 8·98 | + 0·07 | ········· | +46·49 | 14 37 55·54 |
| | $\alpha^2$ Libræ | 58·1 | 12·0 | 25·7 | 39·6 | 53·3 | 41 25·74 | + 0·19 | +46·48 | +46·50 | 14 42 12·43 |
| | Groombridge 2213 | 3·0 | 23·5 | 43·5 | 4·0 | 24·0 | 7 43·60 | − 1·87 | ········· | +46·52 | 15 8 28·25 |
| | $\gamma^2$ Ursæ Minoris | 52·0 | 36·2 | 20·2 | 4·0 | 47·8 | 20 20·04 | − 0·46 | ········· | +46·53 | 15 21 6·11 |
| | δ Serpentis, following | 5·1 | 18·6 | 32·1 | 45·6 | 59·3 | 26 32·14 | + 0·10 | ········· | +46·54 | 15 27 18·78 |
| | ι Serpentis | 18·9 | 33·1 | 47·2 | 1·4 | 15·6 | 33 47·24 | + 0·07 | ········· | +46·55 | 15 34 33·86 |
| | γ Coronæ Borealis | 53·5 | 8·6 | 23·2 | 38·0 | 53·0 | 35 23·26 | + 0·04 | ········· | +46·55 | 15 36 9·85 |
| | λ Serpentis | 36·7 | 50·0 | 3·5 | 16·9 | 30·3 | 38 3·48 | + 0·11 | ········· | +46·56 | 15 38 50·15 |
| | 36 Serpentis | 52·5 | 5·8 | 19·1 | 32·4 | 45·8 | 42 19·12 | + 0·14 | ········· | +46·57 | 15 43 5·83 |
| | ζ Ursæ Minoris | 59·3 | 4·6 | 10·0 | 15·6 | 20·5 | 49 10·00 | − 0·78 | ········· | +46·58 | 15 49 55·80 |
| | $\beta^1$ Scorpii | 4·3 | 18·5 | 32·6 | 46·8 | 0·9 | 55 32·62 | + 0·19 | +46·53 | +46·59 | 15 56 19·40 |
| | δ Ophiuchi | 54·5 | 7·8 | 21·1 | 34·4 | 47·8 | 5 21·12 | + 0·12 | +46·56 | +46·60 | 16 6 7·84 |
| | ε Ophiuchi | 48·1 | 1·5 | 14·8 | 28·1 | 41·3 | 9 14·76 | + 0·14 | ········· | +46·60 | 16 10 1·50 |
| | Juno | 1·6 | 15·0 | 28·2 | 41·5 | 54·6 | 11 28·18 | + 0·14 | ········· | +46·61 | 16 12 14·93 |
| | τ Herculis | 37·8 | 57·0 | 16·7 | 35·8 | 55·1 | 14 16·48 | − 0·06 | ········· | +46·61 | 16 15 3·03 |
| | 51 Serpentis | 57·0 | 10·5 | 24·2 | 38·0 | 51·8 | 17 24·30 | + 0·09 | ········· | +46·61 | 16 18 11·00 |
| | 25 Herculis | 29·9 | 46·7 | 3·3 | 20·0 | 37·0 | 19 3·38 | + 0·00 | ········· | +46·62 | 16 19 50·00 |
| | β Herculis | 13·8 | 28·0 | 42·5 | 56·8 | 11·1 | 22 42·44 | + 0·06 | ········· | +46·62 | 19 23 29·12 |
| | 29 Herculis | 2·5 | 16·0 | 29·7 | 43·2 | 56·8 | 24 29·64 | + 0·10 | ········· | +46·63 | 16 25 16·37 |
| | ζ Ophiuchi | 17·9 | 31·2 | 44·7 | 58·2 | 11·7 | 27 44·74 | + 0·16 | ········· | +46·63 | 16 28 31·53 |
| | γ Piscium | 46·7 | 0·0 | 13·4 | 26·6 | 40·0 | 8 13·34 | + 0·13 | ········· | +47·01 | 23 9 0·48 |
| | Moon 2 Limb | 13·8 | 27·4 | 41·1 | 54·8 | 8·3 | 24 41·08 | + 0·13 | ········· | +47·03 | 23 25 28·24 |
| | α Andromedæ | 58·4 | 13·4 | 28·4 | 43·6 | 58·7 | 59 28·50 | + 0·04 | +46·99 | +47·09 | 0 0 15·63 |
| | γ Pegasi | ······ | 7·1 | 20·8 | 34·3 | 48·3 | 4 20·77 | + 0·09 | +47·19 | +47·09 | 0 5 7·95 |
| | α Ursæ Minoris | ······ | 25·0 | 40·0 | ······ | 17·0 | 1 41·83 | − 6·99 | ········· | +47·17 | 1 2 22·01 |
| June 2 | Sun 1 Limb | 21·4 | 35·8 | 50·1 | 4·6 | 19·0 | 37 50·18 | + 0·13 | ········· | +47·48 | 4 38 37·79 |
| | Sun 2 Limb | 38·1 | 52·5 | 6·8 | 21·2 | 35·5 | 40 6·82 | + 0·13 | ········· | +47·48 | 4 40 54·43 |
| | Venus 1 Limb | 52·3 | 6·8 | 21·6 | 36·1 | 50·8 | 18 21·52 | + 0·11 | ········· | +47·61 | 6 19 9·24 |
| | α Canis Minoris | 48·4 | 1·6 | 15·0 | 28·3 | 41·6 | 30 14·98 | + 0·21 | +47·69 | +47·69 | 7 31 2·88 |
| | α Leonis | 43·8 | 57·4 | 10·9 | 24·7 | 38·2 | 59 11·00 | + 0·18 | +47·96 | +47·96 | 9 59 59·14 |
| | β Leonis | 46·4 | 0·2 | 14·0 | 27·8 | 41·6 | 40 14·00 | + 0·17 | +48·18 | +48·18 | 11 41 2·35 |
| | α Ursæ Minoris S.P. | 49·0 | 6·0 | 23·5 | 39·5 | 57·0 | 1 23·00 | + 9·90 | ········· | +48·33 | 13 2 21·23 |
| | α Virginis | 40·0 | 53·5 | 7·0 | 20·6 | 34·1 | 16 7·04 | + 0·28 | +48·33 | +48·35 | 13 16 55·67 |
| | η Bootis | 56·1 | 10·1 | 24·2 | 38·3 | 52·4 | 46 24·22 | + 0·15 | +48·42 | +48·39 | 13 47 12·76 |
| | 3 Ursæ Minoris | 17·3 | 9·8 | 2·2 | 55·0 | 47·5 | 5 2·36 | − 0·75 | ········· | +48·42 | 14 5 50·03 |
| | 35 Bootis | 39·0 | 53·1 | 7·0 | 20·8 | 34·6 | 37 6·90 | + 0·15 | ········· | +48·47 | 14 37 55·52 |
| | $\gamma^2$ Ursæ Minoris | 50·2 | 34·0 | 18·0 | 2·0 | 45·8 | 20 18·00 | − 0·56 | ········· | +48·55 | 15 21 5·99 |
| | δ Serpentis, following | 3·1 | 16·5 | 30·0 | 43·6 | 57·2 | 26 30·08 | + 0·18 | ········· | +48·56 | 15 27 18·82 |
| | γ Coronæ Borealis | 51·5 | 6·4 | 21·1 | 36·0 | 50·9 | 35 21·18 | + 0·10 | ········· | +48·57 | 15 36 9·85 |
| | λ Serpentis | 34·5 | 48·0 | 1·4 | 14·9 | 28·3 | 38 1·42 | + 0·20 | ········· | +48·58 | 15 38 50·20 |
| | 36 Serpentis | 50·3 | 3·6 | 16·9 | 30·3 | 43·6 | 42 16·94 | + 0·24 | ········· | +48·58 | 15 43 5·76 |
| | ζ Ursæ Minoris | 57·2 | 2·2 | 7·5 | 13·0 | 18·4 | 49 7·66 | − 1·01 | ········· | +48·59 | 15 49 55·24 |
| | 18 Scorpii | 50·3 | 3·9 | 17·3 | 30·6 | 43·9 | 6 17·20 | + 0·27 | ········· | +48·62 | 16 7 6·09 |
| | Juno | 9·9 | 23·2 | 36·8 | 49·9 | 3·1 | 10 36·58 | + 0·24 | ········· | +48·62 | 16 11 25·44 |
| | τ Herculis | 35·6 | 55·0 | 14·3 | 33·6 | 53·0 | 14 14·30 | − 0·03 | ········· | +48·63 | 16 15 2·90 |
| | υ Ophiuchi | 3·7 | 17·0 | 30·3 | 43·8 | 57·4 | 18 30·44 | + 0·27 | ········· | +48·63 | 16 19 19·34 |
| | β Herculis | 11·8 | 26·0 | 40·2 | 54·6 | 9·0 | 22 40·32 | + 0·13 | ········· | +48·64 | 16 23 29·09 |
| | 29 Herculis | 0·4 | 13·8 | 27·5 | 41·0 | 54·5 | 24 27·44 | + 0·18 | ········· | +48·64 | 16 25 16·26 |
| | 12 Ophiuchi | 52·0 | 5·2 | 18·5 | 31·8 | 45·1 | 27 18·52 | + 0·24 | ········· | +48·65 | 16 28 7·41 |
| | ω Piscium | 57·7 | 11·0 | 24·4 | 37·8 | 51·2 | 50 24·42 | + 0·20 | ········· | +49·25 | 23 51 13·87 |
| | α Andromedæ | 56·0 | 11·1 | 26·2 | 41·3 | 56·4 | 59 26·20 | + 0·10 | +49·27 | +49·26 | 0 0 15·56 |
| | γ Pegasi | 51·4 | 5·0 | 18·5 | 32·4 | 46·0 | 4 18·66 | + 0·17 | +49·25 | +49·26 | 0 5 8·09 |
| | Moon 2 Limb | 59·2 | 13·0 | 26·5 | 40·3 | 53·8 | 9 26·56 | + 0·20 | ········· | +49·27 | 0 10 16·03 |
| | α Ursæ Minoris | 9·0 | 23·5 | 40·0 | 57·5 | 15·5 | 1 41·10 | − 9·40 | ········· | +49·33 | 1 2 21·03 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 3 | Sun 1 Limb | 25·1 | 39·6 | 53·8 | 8·3 | 22·8 | 41 53·92 | + 0·16 | ......... | +49·66 | 4 42 43·74 |
| | 12 Canum Venat | 15·8 | 33·0 | 50·1 | 7·3 | 24·5 | 47 50·14 | + 0·05 | ......... | +50·55 | 12 48 40·74 |
| | α Ursæ Minoris S.P. | ...... | 3·5 | ...... | 38·5 | ...... | 1 21·22 | +10·02 | ......... | +50·56 | 13 2 21·80 |
| | η Bootis | 53·7 | 7·9 | 22·0 | 36·1 | 50·1 | 46 21·96 | + 0·17 | +50·65 | +50·65 | 13 47 12·78 |
| | ε Bootis | 47·6 | 2·5 | 17·7 | 32·7 | 47·7 | 37 17·64 | + 0·12 | +50·68 | +50·75 | 14 38 8·51 |
| | $\alpha^2$ Libræ | 53·8 | 7·7 | 21·4 | 35·2 | 48·9 | 41 21·40 | + 0·32 | +50·69 | +50·76 | 14 42 12·48 |
| | β Libræ | 16·2 | 29·5 | 43·1 | 56·5 | 10·0 | 7 43·06 | + 0·29 | +50·87 | +50·80 | 15 8 34·15 |
| | $\gamma^2$ Ursæ Minoris | 47·8 | 31·6 | 15·8 | 59·8 | 43·7 | 20 15·74 | − 0·55 | ......... | +50·82 | 15 21 6·01 |
| | 22 Serpentis | 32·4 | 46·5 | 0·5 | 14·6 | 28·7 | 34 0·54 | + 0·17 | ......... | +50·83 | 15 34 51·54 |
| | 26 Serpentis | 16·0 | 29·9 | 44·0 | 58·0 | 11·9 | 36 43·96 | + 0·17 | ......... | +50·84 | 15 37 34·97 |
| | ϱ Serpentis | 3·5 | 17·6 | 31·9 | 46·2 | 0·6 | 43 31·96 | + 0·15 | ......... | +50·86 | 15 44 22·97 |
| | 3 Herculis | 46·6 | 59·9 | 13·1 | 26·4 | 39·8 | 52 13·16 | + 0·23 | ......... | +50·87 | 15 53 4·26 |
| | τ Herculis | 33·5 | 52·8 | 12·0 | 31·4 | 50·7 | 14 12·08 | − 0·01 | ......... | +50·91 | 16 15 2·98 |
| | 25 Herculis | 25·4 | 42·0 | 58·8 | 15·7 | 32·5 | 18 58·88 | + 0·06 | ......... | +50·92 | 16 19 49·86 |
| | 30 Herculis | 2·7 | 20·8 | 39·2 | 57·6 | 15·6 | 22 39·18 | + 0·02 | ......... | +50·93 | 16 23 30·13 |
| | σ Herculis | 36·8 | 54·9 | 13·0 | 31·0 | 49·1 | 28 12·96 | + 0·02 | ......... | +50·94 | 16 29 3·92 |
| | α Ursæ Minoris | 5·5 | 24·5 | 39·0 | 58·0 | 13·0 | 1 40·00 | − 9·49 | ......... | +52·02 | 1 2 22·53 |
| June 6 | Sun 1 Limb | 38·2 | 52·8 | 7·3 | 21·9 | 36·4 | 54 7·32 | − 0·05 | ......... | +56·45 | 4 55 3·72 |
| | Sun 2 Limb | 55·5 | 10·0 | 24·4 | 38·9 | 53·3 | 56 24·42 | − 0·05 | ......... | +56·45 | 4 57 20·82 |
| | Mercury 1 Limb | 59·8 | 14·7 | 29·3 | 44·1 | 58·8 | 38 29·34 | − 0·05 | ......... | +56·65 | 6 39 25·94 |
| | Venus 1 Limb | ...... | 21·1 | 35·9 | 50·3 | 5·0 | 39 35·75 | − 0·05 | ......... | +56·65 | 6 40 32·35 |
| | β Leonis | 37·6 | 51·4 | 5·1 | 19·0 | 32·8 | 40 5·18 | − 0·03 | +57·16 | +57·20 | 11 41 2·35 |
| | 12 Canum Venat | 9·1 | 26·3 | 43·4 | 0·6 | 17·7 | 47 43·42 | − 0·11 | ......... | +57·33 | 12 48 40·64 |
| | α Ursæ Minoris S.P. | 47·0 | 3·0 | 21·5 | 38·0 | 53·5 | 1 20·60 | + 6·10 | ......... | +57·35 | 13 2 24·05 |
| | α Virginis | 31·1 | 44·6 | 58·2 | 11·7 | 25·2 | 15 58·16 | + 0·05 | +57·42 | +57·37 | 13 16 55·58 |
| | η Bootis | 47·2 | 1·2 | 15·4 | 29·5 | 43·5 | 46 15·36 | − 0·03 | +57·43 | +57·44 | 13 47 12·77 |
| | 3 Ursæ Minoris | 8·0 | 0·2 | 53·2 | 45·5 | 37·8 | 4 52·94 | − 0·59 | ......... | +57·48 | 14 5 49·83 |
| | α Coronæ Borealis | 35·6 | 50·7 | 5·6 | 20·8 | 35·5 | 27 5·64 | − 0·06 | +57·69 | +57·62 | 15 28 3·20 |
| | 22 Serpentis | 26·0 | 39·9 | 54·0 | 8·0 | 22·1 | 33 54·00 | − 0·03 | ......... | +57·63 | 15 34 51·60 |
| | 26 Serpentis | 9·4 | 23·4 | 37·4 | 51·2 | 5·2 | 36 37·32 | − 0·03 | ......... | +57·64 | 15 37 34·93 |
| | ϱ Serpentis | 56·8 | 11·0 | 25·2 | 39·6 | 53·9 | 43 25·30 | − 0·05 | ......... | +57·65 | 15 44 22·90 |
| | 3 Herculis | 39·8 | 53·1 | 6·4 | 19·8 | 33·2 | 52 6·46 | + 0·01 | ......... | +57·67 | 15 53 4·14 |
| | Juno | 46·9 | 59·8 | 13·3 | 26·6 | 39·8 | 7 13·28 | + 0·02 | ......... | +57·69 | 16 8 10·99 |
| June 7 | Sun 1 Limb | 43·6 | 58·0 | 12·5 | 26·9 | 41·5 | 58 12·50 | − 0·07 | ......... | +58·92 | 4 59 11·35 |
| | Sun 2 Limb | 0·8 | 15·1 | 29·7 | ...... | 58·5 | 0 29·73 | − 0·07 | ......... | +58·92 | 5 1 28·58 |
| | Mercury 1 Limb | ...... | 33·6 | 48·2 | 3·0 | 17·7 | 43 48·31 | − 0·07 | ......... | +59·10 | 6 44 47·34 |
| | Venus 1 Limb | ...... | 38·6 | 53·4 | 8·0 | 22·7 | 44 53·38 | − 0·07 | ......... | +59·10 | 6 45 52·41 |
| | α Canis Minoris | 36·9 | 50·4 | 3·7 | 17·1 | 30·5 | 30 3·72 | − 0·03 | +59·18 | +59·20 | 7 31 2·89 |
| | 12 Canum Venat | 6·8 | 23·9 | 41·1 | 58·2 | 15·3 | 47 41·06 | − 0·12 | ......... | +59·78 | 12 48 40·72 |
| | α Ursæ Minoris S.P. | 46·5 | 3·0 | 18·5 | 36·0 | 55·0 | 1 19·80 | + 5·23 | ......... | +59·80 | 13 2 24·83 |
| | α Virginis | 28·7 | 42·2 | 55·8 | 9·3 | 22·8 | 15 55·76 | + 0·02 | +59·84 | +59·82 | 13 16 55·60 |
| | α Bootis | 2·5 | 16·7 | 30·8 | 44·9 | 59·0 | 7 30·78 | − 0·06 | +59·78 | +59·88 | 14 8 30·60 |
| | $\alpha^2$ Libræ | 44·9 | 58·6 | 12·2 | 26·1 | 39·9 | 41 12·34 | + 0·02 | +60·05 | +59·93 | 14 42 12·29 |
| | 22 Serpentis | 23·5 | 37·6 | 51·6 | 5·7 | 19·9 | 33 51·66 | − 0·06 | ......... | +60·01 | 15 34 51·61 |
| | 26 Serpentis | 7·2 | 21·1 | 35·1 | 49·0 | 3·0 | 36 35·08 | − 0·06 | ......... | +60·02 | 15 37 35·04 |
| | δ Coronæ Borealis | 31·8 | 46·7 | 1·7 | 16·5 | 31·3 | 42 1·60 | − 0·08 | ......... | +60·03 | 15 43 1·55 |
| June 8 | Sun 1 Limb | 49·2 | 3·6 | 17·9 | 32·3 | 46·8 | 2 17·96 | − 0·02 | ......... | +61·29 | 5 3 19·23 |
| | Sun 2 Limb | 6·2 | 20·6 | 35·1 | 49·6 | 4·1 | 4 35·12 | − 0·02 | ......... | +61·29 | 5 5 36·39 |
| | Mercury 1 Limb | 22·5 | 36·9 | 51·7 | 6·5 | 21·1 | 48 51·74 | − 0·02 | ......... | +61·43 | 6 49 53·15 |
| | Venus 1 Limb | 41·2 | 55·9 | 10·6 | 25·1 | 39·8 | 50 10·52 | − 0·02 | ......... | +61·43 | 6 51 11·93 |
| | β Geminorum | 8·4 | 23·4 | 38·5 | 53·5 | 8·6 | 34 38·48 | − 0·04 | +61·51 | +61·51 | 7 35 39·95 |
| | 12 Canum Venat | 4·7 | 21·8 | 38·9 | 56·0 | 13·1 | 47 38·90 | − 0·10 | ......... | +62·05 | 12 48 40·85 |
| | α Ursæ Minoris S.P. | 42·3 | 58·0 | 15·5 | 31·5 | 49·0 | 1 15·26 | + 8·44 | ......... | +62·07 | 13 2 25·77 |
| | α Virginis | 26·6 | 40·1 | 53·6 | 7·1 | 20·5 | 15 53·58 | + 0·02 | +62·02 | +62·09 | 13 16 55·69 |
| | ε Bootis | 36·4 | 51·3 | 6·2 | 21·3 | 36·3 | 37 6·30 | − 0·04 | +62·16 | +62·21 | 14 38 8·47 |

| Date. | OBJECT OBSERVED. | Wire. I. | Wire. II. | Wire. III. | Wire. IV. | Wire. V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 8 | $\alpha^2$ Libræ | 42·5 | 56·3 | 10·0 | 23·7 | 37·6 | 41 10·02 | + 0·14 | +62·25 | +62·22 | 14 42 12·38 |
| | δ Coronæ Borealis | 29·6 | 44·5 | 59·5 | 14·3 | 29·1 | 41 59·40 | − 0·04 | ········· | +62·30 | 15 43 1·66 |
| | Juno | 7·5 | 20·8 | 34·2 | 47·6 | 0·8 | 5 34·18 | + 0·08 | ········· | +62·32 | 16 6 36·58 |
| June 9 | Sun 1 Limb | 55·0 | ······ | 23·9 | 38·2 | 52·8 | 6 23·86 | − 0·03 | ········· | +63·43 | 5 7 27·26 |
| | Sun 2 Limb | 12·3 | 26·7 | 41·1 | 55·6 | 10·0 | 8 41·14 | − 0·03 | ········· | +63·43 | 5 9 44·54 |
| | Mercury 1 Limb | 10·6 | 25·1 | 39·9 | 54·5 | 9·3 | 53 39·88 | − 0·03 | ········· | +63·58 | 6 54 43·43 |
| | Venus 1 Limb | 58·0 | 12·6 | 27·2 | 41·9 | 56·5 | 55 27·24 | − 0·03 | ········· | +63·58 | 6 56 30·79 |
| | α Canis Minoris | 32·6 | 45·9 | 59·1 | 12·5 | 25·9 | 29 59·20 | + 0·03 | +63·63 | +63·64 | 7 31 2·87 |
| | ε Bootis | 34·2 | 49·2 | 4·2 | 19·2 | 34·1 | 37 4·18 | − 0·05 | +64·28 | +64·30 | 14 38 8·43 |
| June 10 | Sun 1 Limb | ······ | 15·2 | 29·8 | 44·3 | 58·8 | 10 29·78 | − 0·05 | ········· | +65·70 | 5 11 35·43 |
| | Sun 2 Limb | 18·3 | 32·7 | 47·2 | 1·7 | 16·2 | 12 47·22 | − 0·05 | ········· | +65·70 | 5 13 52·87 |
| | (*a*) Moon 1 Limb | 25·2 | 40·2 | 54·8 | 10·2 | 25·0 | 44 55·08 | − 0·05 | ········· | +65·82 | 6 46 0·85 |
| | Mercury 1 Limb | 42·8 | 57·5 | 11·9 | 26·6 | 41·0 | 58 11·96 | − 0·05 | ········· | +65·85 | 6 59 17·76 |
| | Venus 1 Limb | 13·9 | 28·5 | 42·9 | 57·9 | 12·2 | 0 43·08 | − 0·05 | ········· | +65·85 | 7 1 48·88 |
| | $\alpha^2$ Geminorum | 54·9 | 10·6 | 26·3 | 42·1 | 57·7 | 23 26·32 | − 0·08 | +65·97 | +65·89 | 7 24 32·13 |
| | α Canis Minoris | 30·4 | 43·6 | 57·0 | 10·3 | 23·7 | 29 57·00 | 0·00 | +65·86 | +65·90 | 7 31 2·90 |
| | β Leonis | 28·5 | 42·1 | 56·0 | 9·7 | 23·6 | 39 55·98 | − 0·03 | +66·31 | +66·42 | 11 41 2·37 |
| | α Ursæ Minoris S.P. | ······ | ······ | 16·0 | ······ | ······ | 1 14·82 | + 6·10 | ········· | +66·46 | 13 2 27·38 |
| June 11 | (*b*) Sun 2 Limb | 44·3 | 58·8 | 13·3 | 28·1 | 42·0 | 18 13·30 | − 0·11 | ········· | −11·71 | 5 18 1·48 |
| | Mercury 1 Limb | 18·7 | 33·1 | 47·7 | 2·2 | 16·8 | 3 47·70 | − 0·11 | ········· | −11·69 | 7 3 35·90 |
| | Venus 1 Limb | 49·1 | 3·8 | 18·4 | 33·0 | 47·8 | 7 18·42 | − 0·11 | ········· | −11·69 | 7 7 6·62 |
| | $\alpha^2$ Geminorum | 12·6 | 28·4 | 43·9 | 59·7 | 15·4 | 24 44·00 | − 0·13 | −11·66 | −11·68 | 7 24 32·19 |
| | α Canis Minoris | 48·0 | 1·3 | 14·7 | 28·1 | 41·4 | 31 14·70 | − 0·06 | −11·78 | −11·68 | 7 31 2·96 |
| | β Geminorum | 21·5 | 36·5 | 51·6 | 6·8 | 21·8 | 35 51·64 | − 0·12 | −11·57 | −11·68 | 7 35 39·84 |
| | Moon 1 Limb | 38·7 | 53·3 | 8·0 | 22·7 | 37·1 | 49 7·96 | − 0·10 | ········· | −11·68 | 7 48 56·18 |
| | ε Leonis | 37·0 | 51·6 | 6·1 | 20·6 | 35·2 | 37 6·10 | − 0·11 | −11·68 | −11·66 | 9 36 54·33 |
| | INSTRUMENT REVERSED. | | | | | | | | | | |
| | δ Leonis | 27·4 | 41·7 | 56·0 | 10·3 | 24·5 | 5 55·98 | − 0·09 | −11·69 | −11·66 | 11 5 44·23 |
| | β Leonis | 46·5 | 0·1 | 14·0 | 27·7 | 41·5 | 41 13·96 | − 0·07 | −11·64 | −11·66 | 11 41 2·23 |
| | α Ursæ Minoris S.P. | 1·5 | 19·5 | 34·5 | 49·5 | 9·0 | 2 34·80 | + 4·82 | ········· | −11·66 | 13 2 27·96 |
| | α Virginis | 40·4 | 53·8 | 7·3 | 20·7 | 34·3 | 17 7·30 | − 0·01 | −11·69 | −11·66 | 13 16 55·63 |
| | α Bootis | 13·8 | 28·0 | 42·1 | 56·2 | 10·4 | 8 42·10 | − 0·08 | −11·55 | −11·68 | 14 8 30·34 |
| | ε Bootis | 50·1 | 5·1 | 20·2 | 35·1 | 50·3 | 38 20·16 | − 0·11 | −11·65 | −11·68 | 14 38 8·37 |
| | $\alpha^2$ Libræ | 56·7 | 10·3 | 24·1 | 38·0 | 51·7 | 42 24·16 | 0·00 | −11·75 | −11·68 | 14 42 12·48 |
| June 12 | Sun 1 Limb | 35·4 | 49·8 | 4·1 | 18·7 | 33·0 | 20 4·20 | − 0·08 | ········· | −11·39 | 5 19 52·73 |
| | Sun 2 Limb | 52·7 | 7·2 | 21·7 | 36·2 | 50·5 | 22 21·66 | − 0·08 | ········· | −11·39 | 5 22 10·19 |
| | α Orionis | 22·8 | 36·2 | 49·6 | 3·0 | 16·5 | 46 49·62 | − 0·02 | −11·33 | −11·39 | 5 46 38·21 |
| | α Canis Minoris | 47·6 | 0·8 | 14·3 | 27·7 | 41·0 | 31 14·28 | − 0·02 | −11·40 | −11·36 | 7 31 2·90 |
| | β Geminorum | 21·1 | 36·2 | 51·3 | 6·3 | 21·4 | 35 51·26 | − 0·09 | −11·22 | −11·36 | 7 35 39·81 |
| | ε Hydræ | 10·7 | 24·0 | 37·4 | 50·5 | 3·8 | 38 37·28 | − 0·02 | −11·46 | −11·34 | 8 38 25·92 |
| | Moon 1 Limb | 32·6 | 47·1 | 1·6 | 15·6 | 29·8 | 49 1·34 | − 0·05 | ········· | −11·34 | 8 48 49·95 |
| | α Ursæ Minoris | 12·0 | 29·0 | 47·0 | 2·0 | 20·0 | 2 46·00 | − 6·29 | ········· | −10·50 | 1 2 29·21† |
| | α Arietis | 0·3 | 14·6 | 29·0 | 43·4 | 57·7 | 58 29·00 | − 0·07 | −10·57 | −10·45 | 1 58 18·48† |
| June 13 | Sun 1 Limb | 43·0 | 57·5 | 12·0 | 26·4 | 41·0 | 24 11·98 | − 0·12 | ········· | −10·32 | 5 24 1·54† |
| | Sun 2 Limb | 0·6 | 15·3 | 29·4 | 44·1 | 58·7 | 26 29·62 | − 0·12 | ········· | −10·32 | 5 26 19·18† |
| | Mercury 1 Limb | 3·6 | 18·0 | 32·5 | 47·0 | 1·5 | 11 32·52 | − 0·12 | ········· | −10·29 | 7 11 22·11† |
| | Venus 1 Limb | 20·7 | 35·4 | 50·1 | 4·5 | 19·1 | 17 49·96 | − 0·12 | ········· | −10·29 | 7 17 39·55† |
| | α Canis Minoris | 46·5 | 0·0 | 13·3 | 26·5 | 40·0 | 31 13·26 | − 0·08 | −10·31 | −10·28 | 7 31 2·90† |
| | β Geminorum | ······ | 35·2 | 50·3 | 5·4 | 20·4 | 35 50·28 | − 0·13 | −10·20 | −10·28 | 7 35 39·87† |
| | Moon 1 Limb | 16·0 | 29·7 | 43·7 | 57·5 | 11·4 | 45 43·66 | − 0·09 | ········· | −10·31 | 9 45 33·26† |

(*a*) Very faint. (*b*) Clock stopped and Pendulum adjusted.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 13 | α Leonis | 42·1 | 56·0 | 9·4 | 23·1 | 36·6 | 0 9·44 | – 0·09 | – 10·31 | – 10·32 | 9 59 59·03† |
| | α Ursæ Minoris S.P. | 1·5 | 17·5 | 35·5 | 52·5 | 7·0 | 2 34·80 | + 5·21 | ......... | – 10·33 | 13 2 29·68† |
| | α Bootis | 12·7 | 26·8 | 41·0 | 55·1 | 9·3 | 8 40·98 | – 0·11 | – 10·41 | – 10·33 | 14 8 30·54† |
| June 14 | Sun 1 Limb | 52·0 | 6·2 | 20·8 | 35·1 | 49·7 | 28 20·76 | – 0·13 | ......... | – 10·01 | 5 28 10·62† |
| | Sun 2 Limb | 9·5 | 24·0 | 38·4 | 52·7 | 7·5 | 30 38·42 | – 0·13 | ......... | – 10·01 | 5 30 28·28† |
| | Mercury 1 Limb | 30·8 | 45·3 | 59·7 | 14·2 | 28·5 | 14 59·70 | – 0·13 | ......... | – 9·98 | 7 14 49·59† |
| | Venus 1 Limb | 36·0 | 50·4 | 5·0 | 19·5 | 34·2 | 23 5·02 | – 0·13 | ......... | – 9·98 | 7 22 54·91† |
| | β Geminorum | 20·0 | 34·8 | 50·0 | 5·1 | 20·3 | 35 50·04 | – 0·14 | – 9·95 | – 9·98 | 7 35 39·92† |
| | α Leonis | 42·0 | 55·4 | 9·2 | 22·7 | 36·4 | 0 9·14 | – 0·10 | – 10·01 | – 9·98 | 9 59 59·06† |
| | 12 Canum Venat. | 16·4 | 33·5 | 50·6 | 7·8 | 25·0 | 48 50·66 | – 0·19 | ......... | – 10·00 | 12 48 40·47† |
| | α Ursæ Minoris S.P. | ...... | 17·5 | 34·5 | 52·0 | ...... | 2 34·91 | + 5·51 | ......... | – 10·00 | 13 2 30·42† |
| | η Bootis | 54·6 | 8·7 | 23·0 | 36·8 | 51·0 | 47 22·82 | – 0·12 | – 9·99 | – 10·00 | 13 47 12·70† |
| | α Bootis | ...... | 26·5 | 40·5 | 54·7 | 9·0 | 8 40·61 | – 0·12 | – 10·04 | – 10·01 | 14 8 30·48† |
| | α Aurigæ | 35·0 | 54·0 | 13·2 | 32·3 | 51·2 | 5 13·14 | – 0·22 | ......... | – 10·23 | 5 5 2·69† |
| June 15 | Sun 2 Limb | 18·5 | 33·0 | 47·5 | 2·0 | 16·5 | 34 47·50 | – 0·07 | ......... | – 10·24 | 5 34 37·19† |
| | Venus 1 Limb | ...... | 4·6 | 19·3 | 34·0 | 48·4 | 28 19·33 | – 0·07 | ......... | – 10·28 | 7 28 8·98† |
| | α Coronæ Borealis | 43·9 | 58·8 | 13·7 | 28·8 | 43·7 | 28 13·78 | – 0·08 | – 10·45 | – 10·45 | 15 28 3·25 |
| | α Serpentis | 16·5 | 29·9 | 43·2 | 56·6 | 10·0 | 36 43·24 | – 0·01 | – 10·45 | – 10·45 | 15 36 32·78 |
| June 17 | Sun 1 Limb | ...... | 34·1 | 48·7 | 3·0 | 17·8 | 40 48·64 | 0·00 | ......... | – 10·43 | 5 40 38·21 |
| | Sun 2 Limb | 37·3 | 51·8 | 6·2 | 20·7 | 35·4 | 43 6·28 | 0·00 | ......... | – 10·43 | 5 42 55·85 |
| | η Bootis | 54·8 | 8·8 | 22·9 | 37·0 | 51·1 | 47 22·92 | + 0·03 | – 10·27 | – 10·32 | 13 47 12·63 |
| | ε Bootis | 48·6 | 3·7 | 18·8 | ...... | 48·9 | 38 18·76 | – 0·01 | – 10·39 | – 10·29 | 14 38 8·46 |
| June 18 | Sun 1 Limb | 28·8 | 43·1 | 57·8 | 12·4 | 26·9 | 44 57·80 | – 0·02 | ......... | – 10·01 | 5 44 47·77 |
| | Sun 2 Limb | 46·5 | 1·0 | 15·6 | 30·1 | 44·7 | 47 15·58 | – 0·02 | ......... | – 10·01 | 5 47 5·55 |
| | 12 Canum Venat. | 16·3 | 33·2 | 50·4 | 7·4 | 24·7 | 48 50·40 | – 0·09 | ......... | – 9·88 | 12 48 40·43 |
| | α Ursæ Minoris S.P. | 1·5 | ...... | 34·5 | 53·0 | 9·0 | 2 35·54 | + 7·87 | ......... | – 9·88 | 13 2 33·53 |
| | α Bootis | 12·0 | 26·1 | 40·2 | 54·3 | 8·5 | 8 40·22 | 0·00 | – 9·80 | – 9·84 | 14 8 30·38 |
| | Moon 1 Limb | 10·4 | 24·9 | 39·5 | 54·0 | 8·3 | 14 39·42 | + 0·14 | ......... | – 9·84 | 14 14 29·72 |
| | α Coronæ Borealis | 43·1 | 58·1 | 13·2 | 28·1 | 43·0 | 28 13·10 | – 0·03 | – 9·83 | – 9·81 | 15 28 3·26 |
| June 21 | α² Geminorum | 9·5 | 25·1 | 40·9 | 56·7 | 12·3 | 24 40·90 | – 0·06 | – 8·59 | – 8·59 | 7 24 32·25 |
| | β Geminorum | 18·4 | 33·5 | 48·6 | 3·7 | 18·8 | 35 48·60 | – 0·04 | – 8·59 | – 8·59 | 7 35 39·97 |
| | Venus 1 Limb | 53·7 | 8·2 | 22·8 | 37·1 | 51·8 | 59 22·72 | – 0·01 | ......... | – 8·59 | 7 59 14·12 |
| June 22 | Sun 1 Limb | 5·2 | 19·9 | 34·4 | 49·0 | 3·4 | 1 34·38 | – 0·03 | ......... | – 8·47 | 6 1 25·88 |
| | Sun 2 Limb | 23·1 | 37·8 | 52·2 | 6·7 | 21·2 | 3 52·20 | – 0·03 | ......... | – 8·47 | 6 3 43·70 |
| | Mercury 1 Limb | 15·5 | 29·7 | 44·0 | 58·1 | 12·4 | 31 43·94 | – 0·01 | ......... | – 8·47 | 7 31 35·46 |
| | β Geminorum | 18·3 | 33·3 | 48·5 | 3·6 | 18·7 | 35 48·48 | – 0·04 | – 8·47 | – 8·47 | 7 35 39·97 |
| | Venus 1 Limb | 0·8 | 15·0 | 29·3 | 43·8 | 58·1 | 4 29·40 | – 0·01 | ......... | – 8·48 | 8 4 20·91 |
| | η Bootis | 53·0 | 7·1 | 21·1 | 35·3 | 49·3 | 47 21·16 | – 0·01 | – 8·51 | – 8·50 | 13 47 12·65 |
| | α Bootis | 10·7 | 24·7 | 38·8 | 52·9 | 7·1 | 8 38·84 | – 0·01 | – 8·44 | – 8·50 | 14 8 30·33 |
| | α Coronæ Borealis | 41·9 | 56·8 | 11·8 | 26·6 | 41·6 | 28 11·74 | – 0·04 | – 8·48 | – 8·48 | 15 28 3·22 |
| | α Serpentis | 14·3 | 27·8 | 41·1 | 54·6 | 8·0 | 36 41·16 | + 0·05 | – 8·44 | – 8·47 | 15 36 32·74 |
| | δ Coronæ Borealis | 40·4 | 55·0 | 9·9 | 24·9 | 39·6 | 43 9·96 | – 0·04 | ......... | – 8·47 | 15 43 1·45 |
| | 21 Ophiuchi | 10·0 | 23·2 | 36·6 | 49·9 | 3·2 | 43 36·58 | + 0·07 | ......... | – 8·47 | 16 43 28·18 |
| | 23 Ophiuchi | 54·7 | 8·2 | 21·5 | 35·0 | 48·4 | 46 21·56 | + 0·09 | ......... | – 8·47 | 16 46 13·18 |
| | ε Herculis | 55·6 | 11·0 | 26·7 | 42·3 | 57·8 | 54 26·68 | – 0·06 | ......... | – 8·47 | 16 54 18·15 |
| | 60 Herculis | 48·0 | 1·6 | 15·1 | 29·0 | 42·8 | 58 15·30 | – 0·07 | ......... | – 8·47 | 16 58 6·76 |
| | A.S.C. 1963 | 5·3 | 21·7 | 38·1 | 54·6 | 10·9 | 2 38·12 | – 0·09 | ......... | – 8·47 | 17 2 29·56 |
| | 37 Ophiuchi | 46·1 | 59·6 | 13·0 | 26·7 | 40·2 | 5 13·12 | – 0·07 | ......... | – 8·47 | 17 5 4·58 |
| | 41 Ophiuchi | 15·8 | 29·0 | 42·5 | 55·7 | 9·0 | 8 42·40 | – 0·03 | ......... | – 8·47 | 17 8 33·90 |
| | 69 Herculis | 51·9 | 8·6 | 25·5 | 42·2 | 59·0 | 12 25·44 | – 0·16 | ......... | – 8·47 | 17 12 16·87 |
| | λ Herculis | 3·5 | 18·3 | 33·2 | 48·0 | 2·9 | 24 33·18 | – 0·04 | ......... | – 8·46 | 17 24 24·68 |
| | 54 Ophiuchi | 50·5 | 4·0 | 17·8 | 31·6 | 45·0 | 27 17·78 | – 0·08 | ......... | – 8·46 | 17 27 9·24 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 22 | μ Ophiuchi | 1·0 | 14·4 | 27·8 | 41·3 | 54·7 | 29 27·84 | + 0·10 | ……… | − 8·46 | 17 29 19·48 |
| | A.S.C. 2034 | 37·7 | 51·6 | 5·6 | 19·2 | 33·0 | 35 5·42 | + 0·01 | ……… | − 8·46 | 17 34 56·97 |
| | 3 Sagittarii | 19·9 | 35·0 | 50·0 | 4·9 | 20·0 | 37 49·96 | + 0·18 | ……… | − 8·46 | 17 37 41·68 |
| | 4 Sagittarii | 52·6 | 7·0 | 21·7 | 36·1 | 50·5 | 50 21·58 | + 0·16 | ……… | − 8·46 | 17 50 13·28 |
| | ζ Serpentis | 54·0 | 7·3 | 20·5 | 33·8 | 47·1 | 52 20·54 | + 0·08 | ……… | − 8·46 | 17 52 12·16 |
| | τ Ophiuchi | 14·2 | 27·7 | 41·1 | 54·5 | 8·0 | 54 41·10 | + 0·10 | ……… | − 8·46 | 17 54 32·74 |
| | 70 Ophiuchi, preced. | 13·8 | 27·1 | 40·4 | 53·6 | 7·0 | 57 40·38 | + 0·06 | ……… | − 8·46 | 17 57 31·98 |
| | 71 Ophiuchi | 30·4 | 43·8 | 57·2 | 10·7 | 24·0 | 59 57·22 | + 0·03 | ……… | − 8·46 | 17 59 48·79 |
| | 101 Herculis | 47·8 | 2·0 | 16·1 | 30·3 | 44·5 | 2 16·14 | − 0·01 | ……… | − 8·46 | 18 2 7·67 |
| | 104 Herculis | 38·4 | 53·8 | 9·4 | 25·1 | 40·6 | 6 9·46 | − 0·06 | ……… | − 8·46 | 18 6 0·94 |
| | (a) Moon 1 Limb | 37·0 | 52·2 | 7·4 | 22·8 | 37·9 | 10 7·46 | + 0·18 | ……… | − 8·46 | 18 9 59·18 |
| | Moon 2 Limb | 57·2 | 12·4 | 27·7 | 43·0 | 58·0 | 12 27·66 | + 0·18 | ……… | − 8·45 | 18 12 19·39 |
| | 107 Herculis | 33·0 | 48·0 | 3·2 | 18·5 | 33·7 | 15 3·28 | − 0·05 | ……… | − 8·45 | 18 14 54·78 |
| | 109 Herculis | 41·4 | 55·5 | 9·8 | 24·1 | 38·6 | 17 9·88 | − 0·01 | ……… | − 8·45 | 18 17 1·42 |
| | 59 Serpentis | 53·1 | 6·5 | 19·8 | 33·1 | 46·5 | 19 19·80 | + 0·07 | ……… | − 8·45 | 18 19 11·42 |
| | A.S.C. 2146 | 54·9 | 9·2 | 23·7 | 38·2 | 52·8 | 26 23·76 | − 0·03 | ……… | − 8·45 | 18 26 15·28 |
| | φ Sagittarii | 30·1 | 44·8 | 0·1 | 14·8 | 29·7 | 35 59·90 | + 0·18 | ……… | − 8·45 | 18 35 51·63 |
| | 110 Herculis | 35·5 | 49·6 | 3·8 | 18·0 | 32·1 | 39 3·80 | − 0·01 | ……… | − 8·45 | 18 38 55·34 |
| | σ Sagittarii | 11·2 | 26·0 | 40·8 | 55·7 | 10·3 | 45 40·80 | + 0·18 | ……… | − 8·45 | 18 45 32·53 |
| | 9 Aquilæ | 21·7 | 35·0 | 48·4 | 1·7 | 15·1 | 48 48·38 | + 0·09 | ……… | − 8·45 | 18 48 40·02 |
| | Saturn 1 Limb Ring | 8·4 | …… | 37·0 | …… | 5·9 | 51 37·10 | + 0·16 | ……… | − 8·45 | 18 51 28·81 |
| | Saturn 2 Limb Ring | …… | 25·7 | …… | 54·6 | …… | 51 40·15 | + 0·16 | ……… | − 8·45 | 18 51 31·86 |
| June 23 | Venus 1 Limb | 5·9 | 20·4 | 34·7 | 48·9 | 3·4 | 9 34·66 | − 0·01 | ……… | − 8·17 | 8 9 26·48 |
| | α Coronæ Borealis | 41·3 | 56·2 | 11·3 | 26·4 | 41·2 | 28 11·28 | − 0·04 | − 8·03 | − 8·12 | 15 28 3·12 |
| | 23 Ophiuchi | 54·5 | 7·8 | 21·1 | 34·5 | 47·8 | 46 21·14 | + 0·09 | ……… | − 8·17 | 16 46 13·06 |
| | 97 Herculis | 36·7 | 51·1 | 5·6 | 20·1 | 34·6 | 56 5·62 | − 0·02 | ……… | − 8·20 | 17 55 57·40 |
| | 70 Ophiuchi, preced. | 13·6 | 26·8 | 40·2 | 53·5 | 6·8 | 57 40·18 | + 0·06 | ……… | − 8·20 | 17 57 32·04 |
| | 98 Herculis | 5·8 | 20·0 | 34·5 | 48·8 | 3·2 | 59 34·46 | − 0·01 | ……… | − 8·20 | 17 59 26·25 |
| | 101 Herculis | 47·6 | 1·8 | 16·0 | 30·2 | 44·4 | 2 16·00 | − 0·12 | ……… | − 8·20 | 18 2 7·68 |
| | 104 Herculis | 38·2 | 53·7 | 9·2 | 24·8 | 40·4 | 6 9·26 | − 0·06 | ……… | − 8·20 | 18 6 1·00 |
| | 106 Herculis | 20·0 | 34·2 | 48·7 | 2·9 | 17·3 | 13 48·62 | − 0·01 | ……… | − 8·21 | 18 13 40·40 |
| | δ Ursæ Minoris | 9·5 | 53·0 | 37·0 | 21·5 | …… | 23 36·92 | − 3·56 | ……… | − 8·21 | 18 23 25·15 |
| | α Lyræ | 13·1 | 29·9 | 47·0 | 4·0 | 21·1 | 31 47·02 | − 0·10 | − 8·26 | − 8·21 | 18 31 38·71 |
| | φ Sagittarii | 29·8 | 44·7 | 59·6 | 14·4 | 29·2 | 35 59·54 | + 0·18 | ……… | − 8·21 | 18 35 51·51 |
| | 110 Herculis | 35·1 | 49·2 | 3·4 | 17·7 | 31·9 | 39 3·46 | − 0·01 | ……… | − 8·22 | 18 38 55·23 |
| | σ Sagittarii | 10·7 | 25·5 | 40·4 | 55·1 | 10·0 | 45 40·34 | + 0·18 | ……… | − 8·22 | 18 45 32·30 |
| | 9 Aquilæ | 21·5 | 34·7 | 48·0 | 1·4 | 14·7 | 48 48·06 | + 0·09 | ……… | − 8·22 | 18 48 39·93 |
| | Saturn 1 Limb Ring | …… | 4·0 | …… | 32·9 | …… | 51 18·45 | + 0·16 | ……… | − 8·22 | 18 51 10·39 |
| | Saturn 2 Limb Ring | 52·7 | …… | 21·6 | …… | 50·3 | 51 21·53 | + 0·16 | ……… | − 8·22 | 18 51 13·47 |
| | ζ Aquilæ | 53·5 | 7·0 | 20·7 | 34·4 | 48·0 | 58 20·72 | + 0·01 | − 8·29 | − 8·23 | 18 58 12·50 |
| | Moon 2 Limb | 15·7 | 30·8 | 45·6 | 0·6 | 15·6 | 8 45·66 | + 0·16 | ……… | − 8·23 | 19 8 37·59 |
| | δ Aquilæ | 17·1 | 30·5 | 43·8 | 57·1 | 10·2 | 17 43·74 | + 0·06 | − 8·24 | − 8·23 | 19 17 35·57 |
| | Jupiter 1 Limb | 33·0 | …… | 1·8 | …… | 30·3 | 26 1·70 | + 0·16 | ……… | − 8·23 | 19 25 53·63 |
| | Jupiter 2 Limb | …… | 50·7 | …… | 19·5 | …… | 26 5·10 | + 0·16 | ……… | − 8·23 | 19 25 57·03 |
| | γ Aquilæ | 29·5 | 42·9 | 56·5 | 10·0 | 23·4 | 38 56·46 | + 0·03 | − 8·13 | − 8·23 | 19 38 48·26 |
| | 57 Sagittarii | 44·7 | 58·9 | 12·9 | 27·0 | 41·0 | 43 12·90 | + 0·20 | ……… | − 8·23 | 19 43 4·87 |
| June 24 | Sun 1 Limb | 23·8 | 38·2 | 52·8 | 7·4 | 21·9 | 9 52·82 | − 0·02 | ……… | − 8·09 | 6 9 44·71 |
| | Sun 2 Limb | 41·4 | 55·8 | 10·6 | 25·1 | 39·6 | 12 10·50 | − 0·02 | ……… | − 8·09 | 6 12 2·39 |
| | α Virginis | 36·5 | 50·0 | 3·6 | 17·1 | 30·5 | 17 3·54 | + 0·12 | − 8·16 | − 8·10 | 13 16 55·56 |
| | β Libræ | 15·2 | 28·6 | 42·0 | 55·5 | 9·0 | 8 42·06 | + 0·11 | − 7·96 | − 7·97 | 15 8 34·20 |
| | α Coronæ Borealis | 41·3 | 56·3 | 11·1 | 26·1 | 41·0 | 28 11·16 | − 0·03 | − 7·92 | − 7·96 | 15 28 3·17 |
| | α Serpentis | 14·0 | 27·3 | 40·5 | 54·0 | 7·5 | 36 40·66 | + 0·05 | − 7·94 | − 7·96 | 15 36 32·75 |
| June 27 | Sun 1 Limb | 49·9 | 4·5 | 19·0 | 33·6 | 47·9 | 22 18·98 | − 0·02 | ……… | − 6·65 | 6 22 12·31 |
| | Sun 2 Limb | 7·7 | 22·1 | 36·6 | 51·1 | 5·7 | 24 36·64 | − 0·02 | ……… | − 6·65 | 6 24 29·97 |
| | Mercury 1 Limb | 20·8 | 34·8 | 48·7 | 2·8 | 16·9 | 31 48·80 | 0·00 | ……… | − 6·62 | 7 31 42·18 |

(a) Unenlightened limb.

| Date. | OBJECT OBSERVED. | Wire. I. | Wire. II. | Wire. III. | Wire. IV. | Wire. V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 27 | β Geminorum | 16·5 | 31·5 | 46·6 | 1·7 | 16·8 | 35 46·62 | − 0·04 | − 6·58 | − 6·62 | 7 35 39·96 |
| | 12 Canum Venat. | 12·4 | 29·7 | 46·8 | 4·0 | 21·2 | 48 46·82 | − 0·09 | ......... | − 6·49 | 12 48 40·24 |
| | α Ursæ Minoris S.P. | 6·5 | 22·0 | 39·5 | 56·5 | ...... | 2 39·68 | + 7·87 | ......... | − 6·48 | 13 2 41·07 |
| | ε Bootis | 44·7 | 59·8 | 14·8 | 29·8 | 44·8 | 38 14·78 | − 0·03 | − 6·48 | − 6·42 | 14 38 8·33 |
| | β Libræ | 13·6 | 27·0 | 40·5 | 53·9 | 7·5 | 8 40·50 | + 0·11 | − 6·41 | − 6·41 | 15 8 34·20 |
| | α Coronæ Borealis | 39·6 | 54·7 | 9·5 | 24·5 | 39·5 | 28 9·56 | − 0·03 | − 6·34 | − 6·40 | 15 28 3·13 |
| | ξ Coronæ Borealis | 35·2 | 50·7 | 6·3 | 21·9 | 37·5 | 16 6·32 | − 0·05 | ......... | − 6·37 | 16 15 59·90 |
| | 30 Herculis | 1·2 | 19·1 | 37·0 | 55·0 | 12·9 | 23 37·04 | − 0·11 | ......... | − 6·37 | 16 23 30·56 |
| | σ Herculis | 34·2 | 52·4 | 10·6 | 28·8 | 46·8 | 29 10·56 | − 0·11 | ......... | − 6·36 | 16 29 4·09 |
| | η Herculis | 4·5 | 21·6 | 38·7 | 55·9 | 13·0 | 37 38·74 | − 0·09 | ......... | − 6·36 | 16 37 32·29 |
| | 52 Herculis | 8·6 | 27·3 | 46·8 | 6·1 | 25·4 | 44 46·84 | − 0·15 | ......... | − 6·35 | 16 44 40·34 |
| | 53 Herculis | 37·2 | 52·8 | 8·6 | 24·3 | 39·8 | 47 8·54 | − 0·05 | ......... | − 6·35 | 16 47 2·14 |
| | ε Herculis | 53·6 | 9·0 | 24·7 | 40·1 | 55·7 | 54 24·62 | − 0·05 | ......... | − 6·34 | 16 54 18·23 |
| | 60 Herculis | 46·0 | 59·4 | 13·1 | 26·8 | 40·5 | 58 13·16 | + 0·02 | ......... | − 6·34 | 16 58 6·84 |
| | A.S.C. 1963 | 3·1 | 19·5 | 36·0 | 52·5 | 8·8 | 2 35·98 | − 0·08 | ......... | − 6·34 | 17 2 29·56 |
| | 37 Ophiuchi | 44·0 | 57·5 | 11·0 | 24·6 | 38·1 | 5 11·04 | + 0·04 | ......... | − 6·34 | 17 5 4·74 |
| | 41 Ophiuchi | 13·7 | 26·8 | 40·2 | 53·5 | 6·7 | 8 40·18 | + 0·08 | ......... | − 6·34 | 17 8 33·92 |
| | 69 Herculis | 49·8 | 6·4 | 23·3 | 40·0 | 56·8 | 12 23·26 | − 0·09 | ......... | − 6·33 | 17 12 16·84 |
| | A.S.C. 1998 | 58·6 | 11·8 | 25·1 | 38·4 | 51·8 | 18 25·14 | + 0·10 | ......... | − 6·33 | 17 18 18·91 |
| | λ Herculis | 1·3 | 16·3 | 31·1 | 45·9 | 0·7 | 24 31·06 | − 0·03 | ......... | − 6·33 | 17 24 24·70 |
| | 54 Ophiuchi | 48·2 | 2·0 | 15·5 | 29·4 | 42·9 | 27 15·60 | + 0·03 | ......... | − 6·32 | 17 27 9·31 |
| | A.S.C. 2034 | 35·5 | 49·3 | 3·1 | 17·0 | 30·8 | 35 3·14 | + 0·02 | ......... | − 6·32 | 17 34 56·84 |
| | 84 Herculis | 33·4 | 47·8 | 2·4 | 17·0 | 31·7 | 37 2·46 | − 0·02 | ......... | − 6·32 | 17 36 56·12 |
| | 89 Herculis | 43·2 | 58·0 | 12·6 | 27·5 | 42·2 | 49 12·70 | − 0·02 | ......... | − 6·32 | 17 49 6·36 |
| | 67 Ophiuchi | 27·4 | 40·6 | 53·9 | 7·2 | 20·4 | 52 53·90 | + 0·06 | ......... | − 6·32 | 17 52 47·64 |
| | τ Ophiuchi | 12·1 | 25·4 | 39·0 | 52·4 | 5·8 | 54 38·94 | + 0·10 | ......... | − 6·31 | 17 54 32·73 |
| | 70 Ophiuchi, preced. | 11·7 | 25·0 | 38·2 | 51·5 | 4·8 | 57 38·24 | + 0·06 | ......... | − 6·31 | 17 57 31·99 |
| | 71 Ophiuchi | 28·2 | 41·6 | 55·1 | 8·6 | 22·0 | 59 55·10 | + 0·04 | ......... | − 6·31 | 17 59 48·83 |
| | 101 Herculis | 45·7 | 59·9 | 14·0 | 28·2 | 42·3 | 2 14·02 | 0·00 | ......... | − 6·31 | 18 2 7·71 |
| | 104 Herculis | 36·0 | 51·5 | 7·2 | 22·9 | 38·5 | 6 7·22 | − 0·05 | ......... | − 6·31 | 18 6 0·86 |
| | 106 Herculis | 18·1 | 32·4 | 46·7 | 1·0 | 15·3 | 13 46·70 | − 0·01 | ......... | − 6·30 | 18 13 40·39 |
| | 109 Herculis | 39·4 | 53·6 | 7·8 | 22·0 | 36·5 | 17 7·86 | − 0·01 | ......... | − 6·30 | 18 17 1·55 |
| June 28 | α Ursæ Minoris S.P. | 7·5 | 23·5 | 40·5 | ...... | ...... | 2 40·96 | + 6·48 | ......... | − 5·64 | 13 2 41·80 |
| | α Virginis | 33·9 | 47·5 | 1·0 | 14·5 | 28·0 | 17 0·98 | + 0·07 | − 5·58 | − 5·63 | 13 16 55·42 |
| | $\beta^1$ Scorpii | 56·7 | 10·8 | 24·9 | 39·0 | 53·0 | 56 24·88 | + 0·14 | − 5·58 | − 5·56 | 15 56 19·46 |
| | δ Ophiuchi | 46·7 | 0·0 | 13·3 | 26·6 | 40·0 | 6 13·32 | + 0·05 | − 5·57 | − 5·56 | 16 6 7·81 |
| | ξ Coronæ Borealis | 34·3 | 49·8 | 5·2 | 21·0 | 36·5 | 16 5·36 | − 0·07 | ......... | − 5·55 | 16 15 59·74 |
| | 33 Herculis | 53·7 | 6·9 | 20·3 | 33·8 | 47·1 | 29 20·36 | + 0·02 | ......... | − 5·55 | 16 29 14·83 |
| | 16 Ophiuchi | 10·8 | 24·0 | 37·3 | 50·6 | 4·0 | 37 37·34 | + 0·04 | ......... | − 5·54 | 16 37 31·84 |
| | 45 Herculis | 42·4 | 55·7 | 9·0 | 22·4 | 35·7 | 40 9·04 | + 0·02 | ......... | − 5·54 | 16 40 3·52 |
| | 21 Ophiuchi | 6·9 | 20·2 | 33·6 | 46·8 | 0·0 | 43 33·50 | + 0·04 | ......... | − 5·53 | 16 43 28·01 |
| | 51 Herculis | 52·0 | 6·7 | 21·2 | 35·9 | 50·6 | 45 21·28 | − 0·04 | ......... | − 5·53 | 16 45 15·71 |
| | 53 Herculis | 36·3 | 52·0 | 7·6 | 23·1 | 38·8 | 47 7·56 | − 0·07 | ......... | − 5·53 | 16 47 1·96 |
| | ε Herculis | 52·6 | 8·1 | 23·5 | 39·0 | 54·7 | 54 23·58 | − 0·07 | ......... | − 5·52 | 16 54 17·99 |
| | A.S.C. 1951 | 30·8 | 44·1 | 57·6 | 11·2 | 24·8 | 55 57·70 | + 0·07 | ......... | − 5·52 | 16 55 52·25 |
| | 60 Herculis | 45·0 | 58·6 | 12·3 | 26·0 | 39·6 | 58 12·30 | 0·00 | ......... | − 5·52 | 16 58 6·78 |
| | A.S.C. 1963 | 2·1 | 18·5 | 35·0 | 51·6 | 7·9 | 2 35·02 | − 0·09 | ......... | − 5·52 | 17 2 29·41 |
| | 37 Ophiuchi | 43·1 | 56·6 | 10·3 | 23·8 | 37·2 | 5 10·20 | 0·00 | ......... | − 5·52 | 17 5 4·68 |
| | α Herculis | 8·2 | 21·9 | 35·7 | 49·4 | 3·1 | 7 35·66 | 0·00 | − 5·40 | − 5·51 | 17 7 30·15 |
| | π Herculis | 8·3 | 24·9 | 41·6 | 58·2 | 14·9 | 9 41·58 | − 0·09 | ......... | − 5·51 | 17 9 35·98 |
| | 69 Herculis | 48·8 | 5·6 | 22·3 | 39·0 | 55·8 | 12 22·30 | − 0·09 | ......... | − 5·51 | 17 12 16·70 |
| | σ Ophiuchi | 23·2 | 36·4 | 49·7 | 3·0 | 16·4 | 18 49·74 | − 0·07 | ......... | − 5·51 | 17 18 44·16 |
| | λ Herculis | 0·6 | 15·5 | 30·3 | 45·1 | 59·8 | 24 30·26 | − 0·05 | ......... | − 5·50 | 17 24 24·71 |
| | 54 Ophiuchi | 47·5 | 1·1 | 14·8 | 28·3 | 41·9 | 27 14·72 | 0·00 | ......... | − 5·50 | 17 27 9·22 |
| | 98 Herculis | 3·1 | 17·5 | 31·8 | 46·1 | 0·4 | 59 31·78 | − 0·03 | ......... | − 5·48 | 17 59 26·27 |
| | α Lyræ | 10·3 | 27·1 | 44·2 | 1·3 | 18·4 | 31 44·26 | − 0·10 | ......... | − 5·46 | 18 31 38·70 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| June 29 | β Libræ | 11·8 | 25·3 | 38·8 | 52·2 | 5·7 | 8 38·76 | + 0·15 | – 4·72 | – 4·81 | 15 8 34·10 |
| | α Coronæ Borealis | 38·0 | 53·0 | 8·0 | 22·9 | 37·9 | 28 7·96 | 0·00 | – 4·78 | – 4·80 | 15 28 3·16 |
| | β¹ Scorpii | 55·9 | 10·0 | 24·0 | 38·1 | 52·1 | 56 24·02 | + 0·24 | – 4·82 | – 4·78 | 15 56 19·48 |
| | δ Ophiuchi | 45·9 | 59·1 | 12·5 | 25·8 | 39·1 | 6 12·48 | + 0·13 | – 4·71 | – 4·78 | 16 6 7·83 |
| | ν¹ Coronæ Borealis | 0·5 | 16·6 | 32·7 | 48·8 | 4·8 | 16 32·68 | – 0·04 | ......... | – 4·78 | 16 16 27·86 |
| | α Scorpii | 23·0 | 37·9 | 52·6 | 7·4 | 22·2 | 19 52·62 | + 0·22 | – 4·78 | – 4·78 | 16 19 48·06 |
| | 28 Herculis | 30·9 | 44·2 | 57·6 | 10·9 | 24·2 | 24 57·56 | + 0·09 | ......... | – 4·77 | 16 24 52·88 |
| | 12 Ophiuchi | 45·6 | 58·9 | 12·1 | 25·4 | 38·7 | 28 12·14 | + 0·13 | ......... | – 4·77 | 16 28 7·50 |
| | 16 Ophiuchi | 9·9 | 23·2 | 36·5 | 49·8 | 3·2 | 37 36·52 | + 0·11 | ......... | – 4·77 | 16 37 31·86 |
| | 45 Herculis | 41·4 | 54·9 | 8·2 | 21·6 | 35·0 | 40 8·22 | + 0·09 | ......... | – 4·76 | 16 40 3·55 |
| | 21 Ophiuchi | 6·1 | 19·6 | 32·6 | 45·9 | 59·2 | 43 32·68 | + 0·11 | ......... | – 4·76 | 16 43 28·03 |
| | 51 Herculis | 51·2 | 5·7 | 20·5 | 35·1 | 49·8 | 45 20·46 | + 0·02 | ......... | – 4·76 | 16 45 15·72 |
| | 53 Herculis | 35·6 | 51·1 | 6·8 | 22·5 | 38·1 | 47 6·82 | – 0·02 | ......... | – 4·75 | 16 47 2·05 |
| | A.S.C. 1951 | 30·1 | 43·5 | 56·9 | 10·5 | 24·0 | 55 57·00 | + 0·16 | ......... | – 4·75 | 16 55 52·41 |
| | ε Ursæ Minoris | 16·0 | 54·8 | 34·0 | 13·0 | 51·5 | 2 33·86 | – 1·53 | ......... | – 4·75 | 17 2 27·58 |
| | 41 Ophiuchi | 12·0 | 25·3 | 38·5 | 51·8 | 5·2 | 8 38·56 | + 0·11 | ......... | – 4·75 | 17 8 33·92 |
| | A.S.C. 1998 | 56·8 | 10·3 | 23·5 | 37·0 | 50·3 | 18 23·58 | + 0·13 | ......... | – 4·75 | 17 18 18·96 |
| | 78 Herculis | 15·4 | 30·4 | 45·6 | 0·8 | 16·0 | 25 45·64 | – 0·01 | ......... | – 4·74 | 17 25 40·89 |
| | 53 Ophiuchi | 48·2 | 1·6 | 15·0 | 28·6 | 42·0 | 27 15·08 | + 0·08 | ......... | – 4·74 | 17 27 10·42 |
| | μ Ophiuchi | 57·4 | 10·8 | 24·2 | 37·6 | 51·0 | 29 24·20 | + 0·15 | ......... | – 4·74 | 17 29 19·61 |
| | A.S.C. 2034 | 34·0 | 47·8 | 1·8 | 15·5 | 29·2 | 35 1·66 | + 0·06 | ......... | – 4·74 | 17 34 56·98 |
| | 84 Herculis | 31·6 | 46·8 | 1·0 | 15·6 | 30·0 | 37 1·00 | + 0·02 | ......... | – 4·74 | 17 36 56·28 |
| | γ Ophiuchi | 40·3 | 53·5 | 6·7 | 20·0 | 33·2 | 40 6·74 | + 0·11 | ......... | – 4·73 | 17 40 2·12 |
| | A.S.C. 2051 | 9·4 | 22·5 | 35·8 | 49·1 | 2·4 | 48 35·84 | + 0·13 | ......... | – 4·73 | 17 48 31·24 |
| | ζ Serpentis | 50·2 | 3·6 | 16·9 | 30·2 | 43·6 | 52 16·90 | + 0·13 | ......... | – 4·73 | 17 52 12·30 |
| | 68 Ophiuchi | 26·1 | 39·6 | 52·8 | 6·2 | 19·5 | 53 52·84 | + 0·11 | ......... | – 4·73 | 17 53 48·22 |
| | 97 Herculis | 33·5 | 47·8 | 2·2 | 16·8 | 31·1 | 56 2·28 | + 0·02 | ......... | – 4·73 | 17 55 57·57 |
| | 106 Herculis | 16·6 | 31·0 | 45·4 | 59·7 | 14·0 | 13 45·34 | + 0·02 | ......... | – 4·73 | 18 13 40·63 |
| | 109 Herculis | 37·7 | 52·1 | 6·4 | 20·7 | 35·0 | 17 6·38 | + 0·02 | ......... | – 4·73 | 18 17 1·67 |
| | δ Ursæ Minoris | 6·5 | 49·0 | 33·5 | ...... | ..... | 23 33·15 | – 3·61 | ......... | – 4·72 | 18 23 24·82 |
| | 3 Vulpeculæ | 1·1 | 15·9 | 30·7 | 45·7 | 0·4 | 16 30·76 | 0·00 | ......... | – 4·70 | 19 16 26·06 |
| | ν Aquilæ | 7·9 | 21·2 | 34·6 | 47·9 | 1·2 | 18 34·56 | + 0·11 | ......... | – 4·69 | 19 18 29·98 |
| June 30 | α Coronæ Borealis | 37·4 | 52·4 | 7·3 | 22·2 | 37·1 | 28 7·28 | – 0·04 | – 4·07 | – 4·03 | 15 28 3·21 |
| | ν¹ Coronæ Borealis | 59·7 | 15·8 | 32·0 | 48·0 | 4·1 | 16 31·92 | – 0·07 | ......... | – 4·00 | 16 16 27·85 |
| | η Ursæ Minoris | 29·6 | 25·0 | 20·4 | 15·6 | 11·0 | 22 20·32 | – 0·69 | ......... | – 4·00 | 16 22 15·63 |
| | σ Herculis | 31·8 | 50·0 | 8·0 | 26·1 | 44·1 | 29 8·00 | – 0·11 | ......... | – 4·00 | 16 29 3·89 |
| | 19 Draconis | 14·6 | 46·5 | 18·5 | 50·3 | 22·2 | 55 18·42 | – 0·35 | ......... | – 4·00 | 16 55 14·07 |
| | ε Ursæ Minoris | 15·6 | 54·0 | 33·3 | 11·6 | 51·5 | 2 33·20 | – 1·30 | ......... | – 4·00 | 17 2 27·90 |
| | α Ophiuchi | 16·5 | 29·8 | 43·7 | 57·1 | 10·8 | 27 43·58 | + 0·01 | – 3·84 | – 4·00 | 17 27 39·59 |
| | β Ophiuchi | 21·3 | 34·5 | 47·8 | 1·2 | 14·6 | 35 47·88 | + 0·04 | ......... | – 4·00 | 17 35 43·92 |
| | γ Ophiuchi | 39·7 | 52·8 | 6·0 | 19·3 | 32·5 | 40 6·06 | + 0·05 | ......... | – 4·00 | 17 40 2·11 |
| | A.S.C. 2051 | 8·6 | 21·8 | 35·1 | 48·4 | 1·7 | 48 35·12 | + 0·07 | ......... | – 4·00 | 17 48 31·19 |
| | θ Herculis | 24·3 | 41·0 | 57·7 | 14·3 | 31·0 | 50 57·66 | – 0·08 | ......... | – 4·00 | 17 50 53·58 |
| | 95 Herculis, preced. | 27·0 | 41·1 | 55·5 | 9·9 | 24·2 | 54 55·54 | – 0·02 | ......... | – 4·00 | 17 54 51·52 |
| | 98 Herculis | 1·5 | 15·9 | 30·2 | 44·6 | 58·8 | 59 30·20 | – 0·02 | ......... | – 4·00 | 17 59 26·18 |
| | 36 Draconis | 5·8 | 36·6 | 7·5 | 37·8 | 8·8 | 13 7·30 | – 0·32 | ......... | – 4·00 | 18 13 2·98 |
| | δ Ursæ Minoris | 4·5 | 47·5 | 32·0 | 15·5 | ...... | 23 31·57 | – 3·01 | ......... | – 4·00 | 18 23 24·56 |
| | α Lyræ | 8·8 | 25·7 | 42·8 | 59·8 | 16·8 | 31 42·78 | – 0·09 | – 3·97 | – 4·00 | 18 31 38·69 |
| | 110 Herculis | 31·0 | 45·0 | 59·4 | 13·6 | 27·7 | 38 59·34 | – 0·01 | ......... | – 4·00 | 18 38 55·33 |
| | β Lyræ | 50·6 | 6·4 | 22·4 | 38·2 | 54·0 | 44 22·32 | – 0·06 | – 4·02 | – 4·00 | 18 44 18·26 |
| | 12 Aquilæ | 55·6 | 9·1 | 22·4 | 35·8 | 49·1 | 53 22·40 | + 0·07 | ......... | – 4·00 | 18 53 18·47 |
| | ζ Aquilæ | 49·2 | 3·0 | 16·7 | 30·2 | 44·0 | 58 16·62 | + 0·01 | – 4·09 | – 4·00 | 18 58 12·63 |
| July 1 | Sun 2 Limb | 38·8 | 53·3 | 7·6 | 22·2 | 36·7 | 41 7·72 | 0·00 | ......... | – 3·53 | 6 41 4·19 |
| | β Libræ | 10·5 | 23·9 | 37·4 | 50·7 | 4·2 | 8 37·34 | + 0·12 | – 3·28 | – 3·32 | 15 8 34·14 |
| | ε Ursæ Minoris | 13·5 | 53·5 | 33·0 | 12·5 | 51·0 | 2 32·70 | – 1·53 | ......... | – 3·32 | 17 2 27·85 |
| | α Herculis | 6·1 | 19·8 | 33·6 | 47·4 | 1·0 | 7 33·58 | + 0·04 | – 3·35 | – 3·32 | 17 7 30·30 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 1 | A.S.C. 1998 | 55·3 | 8·6 | 22·0 | 35·4 | 48·6 | 18 21·98 | + 0·12 | ........ | − 3·32 | 17 18 18·78 |
| | 78 Herculis | 13·9 | 29·1 | 44·2 | 59·3 | 14·4 | 25 44·18 | − 0·03 | ........ | − 3·32 | 17 25 40·83 |
| | α Ophiuchi | 15·8 | 29·3 | 43·0 | 56·6 | 10·1 | 27 42·96 | + 0·04 | − 3·25 | − 3·32 | 17 27 39·68 |
| | μ Ophiuchi | 55·8 | 9·2 | 22·7 | 36·1 | 49·5 | 29 22·66 | + 0·12 | ........ | − 3·32 | 17 29 19·46 |
| | β Ophiuchi | 20·5 | 33·7 | 47·0 | 0·4 | 13·7 | 35 47·06 | + 0·08 | ........ | − 3·32 | 17 35 43·82 |
| | A.S.C. 2051 | 7·7 | 21·0 | 34·3 | 47·7 | 1·0 | 48 34·34 | + 0·11 | ........ | − 3·32 | 17 48 31·13 |
| | θ Herculis | 23·5 | 40·1 | 57·0 | 13·6 | 30·4 | 50 56·92 | − 0·08 | ........ | − 3·32 | 17 50 53·52 |
| | 67 Ophiuchi | 24·2 | 37·6 | 51·1 | 4·5 | 17·7 | 52 51·02 | + 0·08 | ........ | − 3·32 | 17 52 47·78 |
| | 96 Herculis | 16·2 | 30·4 | 44·6 | 58·8 | 13·1 | 55 44·62 | + 0·01 | ........ | − 3·32 | 17 55 41·31 |
| | 72 Ophiuchi | 31·5 | 45·0 | 58·6 | 12·2 | 25·6 | 59 58·58 | + 0·06 | ........ | − 3·32 | 17 59 55·32 |
| | χ Lyræ | 53·6 | 10·0 | 26·6 | 43·0 | 59·5 | 14 26·54 | − 0·07 | ........ | − 3·32 | 18 14 23·15 |
| | α Lyræ | 8·2 | 25·1 | 42·2 | 59·2 | 16·2 | 31 42·18 | − 0·08 | − 3·38 | − 3·32 | 18 31 38·78 |
| | ε Lyræ | 38·6 | 55·8 | 13·1 | 30·4 | 47·7 | 39 13·12 | − 0·09 | ........ | − 3·32 | 18 39 9·71 |
| | β Lyræ | 50·0 | 5·7 | 21·4 | 37·4 | 53·5 | 44 21·60 | − 0·05 | − 3·30 | − 3·32 | 18 44 18·23 |
| July 4 | δ Ophiuchi | 41·8 | 55·2 | 8·5 | 21·7 | 35·0 | 6 8·44 | + 0·12 | − 0·67 | − 0·76 | 16 6 7·80 |
| | ν¹ Coronæ Borealis | 56·6 | 12·8 | 28·6 | 44·6 | 0·8 | 16 28·68 | − 0·07 | ........ | − 0·76 | 16 16 27·85 |
| | α Herculis | ...... | 17·1 | 31·0 | 44·5 | 58·5 | 7 30·92 | + 0·04 | − 0·69 | − 0·73 | 17 7 30·23 |
| | π Herculis | 3·5 | 20·2 | 36·8 | 53·4 | 10·1 | 9 36·80 | − 0·09 | ........ | − 0·73 | 17 9 35·98 |
| | 73 Herculis | 5·6 | 19·8 | 34·2 | 48·7 | 3·1 | 17 34·28 | 0·00 | ........ | − 0·72 | 17 17 33·56 |
| | ν¹ Draconis | 21·4 | 44·8 | 8·3 | 31·7 | 55·0 | 29 8·24 | − 0·26 | ........ | − 0·72 | 17 29 7·26 |
| | δ Ursæ Minoris | 2·5 | 45·0 | ...... | 12·5 | ...... | 23 29·11 | − 4·13 | ........ | − 0·70 | 18 23 24·28 |
| | 61 Serpentis | 25·4 | 38·7 | 52·0 | 5·4 | 18·7 | 23 52·04 | + 0·11 | ........ | − 0·70 | 18 23 51·45 |
| | α Lyræ | 5·6 | 22·6 | 39·6 | 56·5 | 13·6 | 31 39·58 | − 0·09 | − 0·75 | − 0·69 | 18 31 38·80 |
| | β Lyræ | 47·3 | 3·3 | 19·1 | 35·0 | 50·8 | 44 19·10 | − 0·06 | − 0·78 | − 0·68 | 18 44 18·36 |
| | 48 Draconis | 19·5 | 44·0 | 8·7 | 33·5 | 58·5 | 54 8·84 | − 0·29 | ........ | − 0·68 | 18 54 7·87 |
| | 54 Draconis | 20·8 | 45·5 | 10·1 | 34·8 | 59·6 | 11 10·16 | − 0·29 | ........ | − 0·67 | 19 11 9·20 |
| | δ Aquilæ | 9·6 | 23·0 | 36·3 | 49·5 | 2·8 | 17 36·24 | + 0·09 | − 0·61 | − 0·67 | 19 17 35·66 |
| July 5 | Sun 1 Limb | 49·6 | 3·9 | 18·2 | 32·7 | 47·1 | 55 18·30 | − 0·01 | ........ | − 0·20 | 6 55 18·09 |
| | Sun 2 Limb | 6·5 | 20·8 | 35·3 | 49·7 | 4·1 | 57 35·28 | − 0·01 | ........ | − 0·20 | 6 57 35·07 |
| | Venus 1 Limb | ...... | 38·2 | 52·3 | 6·2 | 20·2 | 8 52·21 | + 0·01 | ........ | − 0·16 | 9 8 52·06 |
| | α Coronæ Borealis | 33·2 | 48·0 | 3·0 | 18·1 | 33·0 | 28 3·06 | − 0·03 | + 0·10 | + 0·07 | 15 28 3·10 |
| | α Serpentis | 5·8 | 19·2 | 32·6 | 46·0 | 59·4 | 36 32·60 | + 0·06 | + 0·06 | + 0·07 | 15 36 32·73 |
| July 6 | Sun 2 Limb | 12·6 | 27·1 | 41·6 | 56·1 | 10·5 | 1 41·58 | − 0·05 | ........ | + 0·65 | 7 1 42·18 |
| | α Ursæ Minoris S.P. | 6·5 | 23·0 | 40·0 | 56·5 | 13·0 | 2 39·80 | + 5·83 | ........ | + 0·97 | 13 2 46·60 |
| | η Bootis | 43·4 | 57·4 | 11·5 | 25·6 | 39·7 | 47 11·52 | − 0·04 | + 1·01 | + 1·03 | 13 47 12·51 |
| | β Libræ | 6·1 | 19·7 | 33·0 | 46·5 | 0·0 | 8 33·06 | + 0·04 | + 1·05 | + 1·07 | 15 8 34·17 |
| | α Coronæ Borealis | 32·3 | 47·1 | 2·1 | 17·0 | 31·9 | 28 2·08 | − 0·07 | + 1·11 | + 1·09 | 15 28 3·10 |
| | α Serpentis | 4·7 | 18·2 | 31·6 | 45·1 | 58·4 | 36 31·60 | 0·00 | + 1·12 | + 1·10 | 15 36 32·70 |
| | 19 Ursæ Minoris | 36·2 | 32·0 | 27·8 | 24·3 | 20·0 | 15 28·06 | − 0·62 | ........ | + 1·12 | 16 15 28·56 |
| | α Scorpii | 17·1 | 31·8 | 46·7 | 1·6 | 16·3 | 19 46·70 | + 0·09 | + 1·26 | + 1·12 | 16 19 47·91 |
| | 28 Herculis | 25·2 | 38·5 | 51·8 | 5·1 | 18·5 | 24 51·82 | 0·00 | ........ | + 1·13 | 16 24 52·95 |
| | 12 Ophiuchi | 39·6 | 52·8 | 6·2 | 19·6 | 32·8 | 28 6·20 | + 0·02 | ........ | + 1·13 | 16 28 7·35 |
| | 16 Ophiuchi | 4·2 | 17·4 | 30·8 | 44·1 | 57·4 | 37 30·78 | + 0·01 | ........ | + 1·14 | 16 37 31·93 |
| | 45 Herculis | 35·7 | 49·0 | 2·4 | 15·7 | 29·1 | 40 2·38 | 0·00 | ........ | + 1·14 | 16 40 3·52 |
| | 49 Herculis | 28·2 | 42·0 | 55·8 | 9·5 | 23·3 | 44 55·76 | − 0·02 | ........ | + 1·15 | 16 44 56·89 |
| | ι Ophiuchi | 7·6 | 21·0 | 34·5 | 48·0 | 1·6 | 46 34·54 | − 0·02 | ........ | + 1·16 | 16 46 35·68 |
| | A.S.C. 1951 | 24·0 | 37·6 | 51·1 | 4·7 | 18·2 | 55 51·12 | + 0·04 | ........ | + 1·17 | 16 55 52·33 |
| | ε Ursæ Minoris | 9·6 | 48·0 | 27·8 | 7·0 | 45·5 | 2 27·58 | − 1·13 | ........ | + 1·17 | 17 2 27·62 |
| | δ Herculis | 5·5 | 20·3 | 35·0 | 49·8 | 4·4 | 8 35·00 | − 0·05 | ........ | + 1·17 | 17 8 36·12 |
| | 73 Herculis | 3·5 | 17·9 | 32·5 | 46·9 | 1·5 | 17 32·46 | − 0·06 | ........ | + 1·17 | 17 17 33·57 |
| | 78 Herculis | 9·6 | 24·4 | 39·8 | 55·0 | 10·1 | 25 39·78 | − 0·07 | ........ | + 1·18 | 17 25 40·89 |
| | 53 Ophiuchi | 42·3 | 55·8 | 9·3 | 22·8 | 36·2 | 27 9·28 | − 0·01 | ........ | + 1·18 | 17 27 10·45 |
| | ν² Draconis | 25·2 | 48·6 | 12·0 | 35·2 | 58·5 | 29 11·90 | − 0·21 | ........ | + 1·19 | 17 29 13·30 |
| | β Ophiuchi | 16·2 | 29·4 | 42·7 | 56·1 | 9·5 | 35 42·78 | 0·00 | ........ | + 1·19 | 17 35 43·97 |
| | γ Ophiuchi | 34·5 | 47·6 | 1·0 | 14·2 | 27·6 | 40 0·98 | + 0·01 | ........ | + 1·19 | 17 40 2·18 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 6 | 89 Herculis | 35·6 | 50·5 | 5·3 | 20·2 | 35·0 | 49 5·32 | − 0·05 | ......... | + 1·20 | 17 49 6·47 |
| | ζ Serpentis | 44·4 | 57·8 | 11·2 | 24·5 | 37·8 | 52 11·14 | + 0·03 | ......... | + 1·20 | 17 52 12·37 |
| | τ Ophiuchi | 4·9 | 18·2 | 31·6 | 45·0 | 58·4 | 54 31·62 | + 0·04 | ......... | + 1·20 | 17 54 32·86 |
| | 71 Ophiuchi | 20·8 | 34·1 | 47·6 | 1·1 | 14·6 | 59 47·64 | − 0·01 | ......... | + 1·21 | 17 59 48·84 |
| | 107 Herculis | 23·6 | 38·8 | 53·8 | 9·0 | 24·1 | 14 53·86 | − 0·07 | ......... | + 1·21 | 18 14 55·00 |
| | 61 Serpentis | 23·6 | 37·0 | 50·4 | 3·7 | 16·9 | 23 50·32 | + 0·01 | ......... | + 1·22 | 18 23 51·55 |
| | 1 Aquilæ | 12·7 | 26·0 | 39·5 | 53·0 | 6·2 | 26 39·48 | + 0·04 | ......... | + 1·22 | 18 26 40·74 |
| | ε Lyræ, preceding | 34·4 | 51·5 | 8·8 | 26·1 | 43·2 | 39 8·80 | − 0·11 | ......... | + 1·22 | 18 39 9·91 |
| | Saturn 1 Limb Ring | 35·2 | ...... | 3·8 | ...... | 32·8 | 47 3·93 | + 0·08 | ......... | + 1·23 | 18 47 5·24 |
| | Saturn 2 Limb Ring | ...... | 52·6 | ...... | 21·5 | ...... | 47 7·05 | + 0·08 | ......... | + 1·23 | 18 47 8·36 |
| | $\delta^2$ Lyræ | 28·1 | 44·5 | 1·0 | 17·6 | 34·3 | 49 1·10 | − 0·10 | ......... | + 1·23 | 18 49 2·23 |
| | 12 Aquilæ | 50·6 | 4·0 | 17·3 | 30·7 | 44·2 | 53 17·36 | + 0·03 | ......... | + 1·24 | 18 53 18·63 |
| | 15 Aquilæ | 13·2 | 26·5 | 39·9 | 53·3 | 6·6 | 56 39·90 | + 0·03 | ......... | + 1·24 | 18 56 41·17 |
| | 18 Aquilæ | 8·0 | 21·5 | 35·0 | 48·4 | 2·0 | 59 34·98 | − 0·02 | ......... | + 1·24 | 18 59 36·20 |
| | 22 Aquilæ | 18·0 | 31·2 | 44·5 | 57·8 | 11·2 | 8 44·54 | 0·00 | ......... | + 1·24 | 19 8 45·78 |
| | 26 Aquilæ | 42·8 | 56·1 | 9·5 | 22·9 | 36·2 | 12 9·50 | + 0·03 | ......... | + 1·24 | 19 12 10·77 |
| | 3 Vulpeculæ | 55·7 | 10·2 | 25·0 | 40·0 | 54·7 | 16 25·12 | − 0·06 | ......... | + 1·24 | 19 16 26·30 |
| | Jupiter 1 Limb | ...... | 48·1 | ...... | 17·2 | ...... | 19 2·65 | + 0·08 | ......... | + 1·24 | 19 19 3·97 |
| | Jupiter 2 Limb | 37·5 | ...... | 6·5 | ...... | 35·2 | 19 6·40 | + 0·08 | ......... | + 1·24 | 19 19 7·72 |
| July 7 | 84 Herculis | 25·4 | 39·7 | 54·3 | 8·8 | 23·3 | 36 54·30 | + 0·02 | ......... | + 1·80 | 17 36 56·12 |
| | 89 Herculis | 35·0 | 49·6 | 4·3 | 19·1 | 34·0 | 49 4·40 | 0·00 | ......... | + 1·81 | 17 49 6·21 |
| | θ Herculis | 18·2 | 34·9 | 51·6 | 8·4 | 25·1 | 50 51·64 | − 0·05 | ......... | + 1·81 | 17 50 53·40 |
| | δ Ursæ Minoris | 59·0 | 41·5 | 25·5 | 9·5 | ...... | 23 25·59 | − 3·61 | ......... | + 1·82 | 18 23 23·80 |
| | α Lyræ | 3·0 | 20·0 | 37·0 | 54·1 | 11·0 | 31 37·02 | − 0·07 | + 1·80 | + 1·82 | 18 31 38·77 |
| | ε Lyræ | 33·6 | 50·7 | 7·9 | 25·2 | 42·5 | 39 7·98 | − 0·07 | ......... | + 1·82 | 18 39 9·73 |
| | β Lyræ | 44·6 | 0·6 | 16·6 | 32·3 | 48·1 | 44 16·44 | − 0·03 | + 1·87 | + 1·83 | 18 44 18·24 |
| | Saturn 1 Limb Ring | ...... | 29·9 | ...... | 58·8 | ...... | 46 44·35 | + 0·20 | ......... | + 1·83 | 18 46 46·38 |
| | Saturn 2 Limb Ring | 18·6 | ...... | 47·6 | ...... | 16·4 | 46 47·53 | + 0·20 | ......... | + 1·83 | 18 46 49·56 |
| | 9 Aquilæ | 11·2 | 24·7 | 38·1 | 51·6 | 4·8 | 48 38·08 | + 0·14 | ......... | + 1·83 | 18 48 40·05 |
| | 12 Aquilæ | 49·8 | 3·1 | 16·6 | 29·8 | 43·1 | 53 16·48 | + 0·14 | ......... | + 1·84 | 18 53 18·46 |
| | ζ Aquilæ | 43·5 | 57·1 | 10·8 | 24·4 | 38·0 | 58 10·76 | + 0·06 | + 1·79 | + 1·84 | 18 58 12·66 |
| | Jupiter 1 Limb | 0·6 | ...... | ...... | ...... | 58·0 | 18 29·30 | + 0·20 | ......... | + 1·85 | 19 18 31·35 |
| | Jupiter 2 Limb | ...... | 18·2 | ...... | 47·0 | ...... | 18 32·60 | + 0·20 | ......... | + 1·85 | 19 18 34·65 |
| | α Arietis | 48·1 | 2·5 | 17·0 | 31·3 | 45·7 | 58 16·92 | + 0·02 | + 2·24 | + 2·22 | 1 58 19·16 |
| | α Ceti | 34·5 | 47·8 | 1·2 | 14·5 | 27·8 | 54 1·16 | + 0·10 | + 2·29 | + 2·25 | 2 54 3·51 |
| July 8 | α Ursæ Minoris S.P. | ...... | ...... | 40·0 | 56·0 | ...... | 2 40·27 | + 7·43 | ......... | + 2·52 | 13 2 50·22 |
| | 67 Ophiuchi | 18·4 | 31·6 | 44·9 | 58·3 | 11·6 | 52 44·96 | + 0·05 | ......... | + 2·67 | 17 52 47·68 |
| | 72 Ophiuchi | 25·6 | 39·0 | 52·6 | 6·1 | 19·5 | 59 52·56 | + 0·03 | ......... | + 2·67 | 17 59 55·26 |
| | 36 Draconis | 59·0 | 29·6 | 0·6 | 31·2 | 1·8 | 13 0·44 | − 0·36 | ......... | + 2·68 | 18 13 2·76 |
| | χ Draconis | 26·0 | 10·7 | 55·6 | 40·3 | 24·2 | 23 55·36 | − 0·58 | ......... | + 2·69 | 18 23 57·47 |
| | α Lyræ | 2·1 | 19·3 | 36·1 | 53·1 | 10·2 | 31 36·16 | − 0·10 | + 2·69 | + 2·69 | 18 31 38·75 |
| July 9 | 49 Herculis | 25·9 | 39·6 | 53·3 | 7·0 | 20·7 | 44 53·30 | − 0·01 | ......... | + 3·62 | 16 44 56·91 |
| | ι Ophiuchi | 5·0 | 18·6 | 32·1 | 45·6 | 59·0 | 46 32·06 | − 0·01 | ......... | + 3·62 | 16 46 35·67 |
| | 19 Draconis | 6·5 | 38·6 | 10·5 | 42·3 | 14·3 | 55 10·44 | − 0·39 | ......... | + 3·63 | 16 55 13·68 |
| | ε Ursæ Minoris | 6·0 | 45·2 | 24·5 | 3·8 | 42·2 | 2 24·34 | − 1·47 | ......... | + 3·63 | 17 2 26·50 |
| | α Herculis | 59·2 | 12·8 | 26·6 | 40·3 | 54·0 | 7 26·58 | − 0·01 | + 3·70 | + 3·63 | 17 7 30·20 |
| | π Herculis | 59·4 | 15·8 | 32·6 | 49·1 | 5·7 | 9 32·52 | − 0·11 | ......... | + 3·63 | 17 9 36·04 |
| | 73 Herculis | 1·0 | 15·5 | 29·8 | 44·4 | 58·9 | 17 29·92 | − 0·04 | ......... | + 3·64 | 17 17 33·52 |
| | α Ophiuchi | 8·8 | 22·4 | 36·1 | 49·8 | 3·3 | 27 36·08 | 0·00 | + 3·69 | + 3·64 | 17 27 39·72 |
| | ω Draconis | 39·6 | 16·2 | 53·0 | 30·0 | 6·8 | 37 53·12 | − 0·47 | ......... | + 3·65 | 17 37 56·30 |
| | ξ Draconis | 59·3 | 23·1 | 48·0 | 12·4 | 36·7 | 50 47·90 | − 0·26 | ......... | + 3·65 | 17 50 51·29 |
| | 68 Ophiuchi | 18·0 | 31·4 | 44·6 | 58·0 | 11·3 | 53 44·66 | + 0·04 | ......... | + 3·66 | 17 53 48·36 |
| | 97 Herculis | 25·0 | 39·5 | 54·0 | 8·4 | 22·8 | 55 53·94 | − 0·04 | ......... | + 3·66 | 17 55 57·56 |
| | 72 Ophiuchi | 24·7 | 38·1 | 51·7 | 5·2 | 18·6 | 59 51·66 | + 0·01 | ......... | + 3·67 | 17 59 55·34 |
| | 36 Draconis | 57·8 | 28·6 | 59·5 | 30·3 | 1·1 | 12 59·46 | − 0·37 | ......... | + 3·67 | 18 13 2·76 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 9 | 59 Serpentis | 41·3 | 54·5 | 7·7 | 21·1 | 34·4 | 19 7·80 | + 0·04 | ........ | + 3·68 | 18 19 11·52 |
| | α Lyræ | 1·2 | 18·1 | 35·2 | 52·2 | 9·2 | 31 35·18 | − 0·11 | + 3·69 | + 3·68 | 18 31 38·75 |
| | β Lyræ | 43·0 | 58·9 | 14·7 | 30·7 | 46·6 | 44 14·78 | − 0·09 | + 3·60 | + 3·69 | 18 44 18·38 |
| | $\theta^1$ Serpentis | 55·4 | 8·7 | 22·0 | 35·3 | 48·7 | 48 22·02 | + 0·03 | ........ | + 3·69 | 18 48 25·74 |
| | 14 Aquilæ | 8·8 | 22·1 | 35·4 | 48·8 | 2·1 | 54 35·44 | + 0·06 | ........ | + 3·70 | 18 54 39·20 |
| | 15 Aquilæ | 10·7 | 24·0 | 37·5 | 50·7 | 4·0 | 56 37·38 | + 0·06 | ........ | + 3·70 | 18 56 41·14 |
| | 18 Aquilæ | 5·4 | 19·0 | 32·6 | 46·1 | 59·5 | 59 32·52 | + 0·01 | ........ | + 3·70 | 18 59 36·23 |
| | 22 Aquilæ | 15·3 | 28·6 | 42·0 | 55·4 | 8·6 | 8 41·98 | + 0·03 | ........ | + 3·70 | 19 8 45·71 |
| | 26 Aquilæ | 40·4 | 53·6 | 7·1 | 20·5 | 33·8 | 12 7·08 | + 0·06 | ........ | + 3·71 | 19 12 10·85 |
| | Jupiter 1 Limb | ...... | 7·1 | ...... | 35·9 | ...... | 17 21·50 | − 0·07 | ........ | + 3·71 | 19 17 25·14 |
| | Jupiter 2 Limb | 56·3 | ...... | 25·1 | ...... | 53·8 | 17 25·07 | − 0·07 | ........ | + 3·71 | 19 17 28·71 |
| July 12 | α Leonis | 25·1 | 38·7 | 52·3 | 6·0 | 19·7 | 59 52·36 | − 0·03 | + 6·56 | + 6·62 | 9 59 58·95 |
| | Moon 1 Limb | 22·8 | 36·1 | 49·8 | 3·6 | 17·1 | 14 49·88 | + 0·02 | ........ | + 6·71 | 11 14 56·61 |
| | β Leonis | 27·7 | 41·5 | 55·2 | 9·1 | 22·8 | 40 55·26 | − 0·04 | + 6·73 | + 6·75 | 11 41 1·98 |
| | β Virginis | 57·0 | 10·0 | 23·5 | 36·8 | 50·0 | 42 23·46 | 0·00 | ........ | + 6·77 | 11 42 30·23 |
| | α Ursæ Minoris S.P. | 5·5 | 23·0 | 38·5 | 56·0 | 12·0 | 2 39·00 | + 7·69 | ........ | + 6·85 | 13 2 53·54 |
| | α Virginis | 21·5 | 34·9 | 48·3 | 1·8 | 15·4 | 16 48·38 | + 0·06 | + 6·89 | + 6·86 | 13 16 55·30 |
| | δ Ophiuchi | 34·0 | 47·4 | 0·9 | 14·3 | 27·5 | 6 0·82 | + 0·03 | + 7·01 | + 7·08 | 16 6 7·93 |
| | 19 Ursæ Minoris | 29·6 | 25·6 | 21·8 | 17·6 | 13·6 | 15 21·64 | − 0·82 | ........ | + 7·09 | 16 15 27·91 |
| | α Scorpii | 11·3 | 25·9 | 40·6 | 55·5 | 10·3 | 19 40·72 | + 0·11 | + 7·20 | + 7·09 | 16 19 47·92 |
| | 28 Herculis | 19·2 | 32·5 | 45·9 | 59·3 | 12·6 | 24 45·90 | 0·00 | ........ | + 7·10 | 16 24 53·00 |
| | 33 Herculis | 41·0 | 54·6 | 7·9 | 21·3 | 34·6 | 29 7·88 | − 0·01 | ........ | + 7·11 | 16 29 14·98 |
| | 43 Herculis | 44·6 | 58·1 | 11·6 | 24·9 | 38·4 | 38 11·52 | − 0·01 | ........ | + 7·12 | 16 38 18·63 |
| | 49 Herculis | 22·5 | 36·1 | 49·9 | 3·7 | 17·3 | 44 49·90 | − 0·04 | ........ | + 7·12 | 16 44 56·98 |
| | ι Ophiuchi | 1·6 | 15·1 | 28·5 | 42·0 | 55·5 | 46 28·54 | − 0·02 | ........ | + 7·13 | 16 46 35·65 |
| | 19 Draconis | 3·3 | 35·0 | 7·0 | 38·9 | 10·8 | 55 7·00 | − 0·43 | ........ | + 7·14 | 16 55 13·71 |
| | δ Herculis | 59·8 | 14·3 | 29·0 | 43·8 | 58·4 | 8 29·06 | − 0·08 | ........ | + 7·14 | 17 8 36·12 |
| | σ Ophiuchi | 10·8 | 24·1 | 37·5 | 50·8 | 4·0 | 18 37·44 | 0·00 | ........ | + 7·15 | 17 18 44·59 |
| | 53 Ophiuchi | 36·5 | 50·0 | 3·4 | 17·0 | 30·6 | 27 3·50 | − 0·02 | ........ | + 7·16 | 17 27 10·64 |
| | $\nu^2$ Draconis | 19·3 | 42·6 | 5·8 | 29·2 | 52·6 | 29 5·90 | − 0·28 | ........ | + 7·16 | 17 29 12·78 |
| | ω Draconis | 35·9 | 13·0 | 49·8 | 26·8 | 3·5 | 37 49·80 | − 0·51 | ........ | + 7·17 | 17 37 56·46 |
| | ξ Draconis | 56·0 | 20·2 | 44·6 | 8·8 | 33·2 | 50 44·56 | − 0·29 | ........ | + 7·19 | 17 50 51·46 |
| July 13 | 12 Canum Venat. | 58·0 | 15·1 | 32·1 | 49·3 | 6·5 | 48 32·20 | − 0·16 | ........ | + 7·93 | 12 48 39·97 |
| | α Ursæ Minoris S.P. | 5·0 | 22·0 | 37·5 | 56·0 | 12·5 | 2 38·60 | − 7·95 | ........ | + 7·95 | 13 2 54·50 |
| | α Bootis | 54·1 | 8·1 | 22·2 | 36·3 | 50·5 | 8 22·24 | − 0·07 | + 7·99 | + 8·00 | 14 8 30·17 |
| | ε Bootis | 30·1 | 45·1 | 0·2 | 15·2 | 30·3 | 38 0·18 | − 0·10 | + 8·01 | + 8·02 | 14 38 8·10 |
| | $\alpha^2$ Libræ | 36·6 | 50·3 | 4·1 | 17·9 | 31·7 | 42 4·12 | + 0·07 | + 8·04 | + 8·04 | 14 42 12·23 |
| | α Coronæ Borealis | 25·2 | 40·0 | 55·0 | 10·1 | 25·0 | 27 55·06 | − 0·10 | + 8·08 | + 8·07 | 15 28 3·03 |
| | 19 Ursæ Minoris | 28·6 | 24·8 | 20·6 | 16·6 | 12·5 | 15 20·62 | − 0·86 | ........ | + 8·10 | 16 15 27·86 |
| | δ Herculis | 58·8 | 13·3 | 28·0 | 42·6 | 57·3 | 8 28·00 | − 0·09 | ........ | + 8·13 | 17 8 36·04 |
| | σ Ophiuchi | 9·7 | 23·0 | 36·2 | 49·7 | 3·0 | 18 36·32 | − 0·01 | ........ | + 8·14 | 17 18 44·45 |
| | $\nu^1$ Draconis | 12·9 | 36·2 | 59·5 | 22·9 | 46·1 | 28 59·52 | − 0·30 | ........ | + 8·15 | 17 29 7·37 |
| | ω Draconis | 35·0 | 11·6 | 48·6 | 25·7 | 2·2 | 37 48·62 | − 0·54 | ........ | + 8·15 | 17 37 56·23 |
| | ξ Draconis | 54·7 | 19·0 | 43·4 | 7·8 | 32·1 | 50 43·40 | − 0·31 | ........ | + 8·16 | 17 50 51·25 |
| | 68 Ophiuchi | 13·6 | 27·0 | 40·3 | 53·6 | 6·8 | 53 40·26 | + 0·01 | ........ | + 8·16 | 17 53 48·43 |
| | Saturn 1 Limb Ring | 17·0 | ...... | 46·0 | ...... | 14·8 | 44 45·56 | + 0·10 | ........ | + 8·19 | 18 44 53·85 |
| | Saturn 2 Limb Ring | ...... | 34·6 | ...... | 3·5 | ...... | 44 49·05 | + 0·10 | ........ | + 8·19 | 18 44 57·34 |
| | $\theta^1$ Serpentis | 51·3 | 4·5 | 17·8 | 31·0 | 44·4 | 48 17·80 | − 0·01 | ........ | + 8·19 | 18 48 25·98 |
| | 14 Aquilæ | 4·6 | 17·9 | 31·1 | 44·5 | 57·9 | 54 31·20 | + 0·03 | ........ | + 8·20 | 18 54 39·43 |
| | 15 Aquilæ | 6·5 | 19·8 | 33·1 | 46·5 | 59·8 | 56 33·14 | + 0·03 | ........ | + 8·20 | 18 56 41·37 |
| | 18 Aquilæ | 1·1 | 14·6 | 28·2 | 41·8 | 55·2 | 59 28·18 | − 0·03 | ........ | + 8·20 | 18 59 36·35 |
| | 22 Aquilæ | 11·0 | 24·4 | 37·7 | 51·1 | 4·4 | 8 37·72 | − 0·01 | ........ | + 8·20 | 19 8 45·91 |
| | 26 Aquilæ | 36·0 | 49·3 | 2·7 | 16·0 | 29·4 | 12 2·68 | + 0·04 | ........ | + 8·21 | 19 12 10·93 |
| | Jupiter 1 Limb | 36·2 | ...... | 5·1 | ...... | 33·9 | 15 5·07 | + 0·10 | ........ | + 8·21 | 19 15 13·38 |
| | Jupiter 2 Limb | ...... | 54·3 | ...... | 22·9 | ...... | 15 8·60 | + 0·10 | ........ | + 8·21 | 19 15 16·91 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 14 | Sun 1 Limb | 30·4 | 44·7 | 59·1 | 13·4 | 27·7 | 31 59·06 | − 0·04 | ......... | + 8·68 | 7 32 7·70 |
| | Sun 2 Limb | 46·3 | ...... | 15·0 | 29·4 | 43·7 | 34 15·01 | − 0·04 | ......... | + 8·68 | 7 34 23·65 |
| | α Leonis | 22·8 | 36·5 | 50·2 | 3·7 | 17·3 | 59 50·10 | − 0·01 | + 8·80 | + 8·80 | 9 59 58·89 |
| | 12 Canum Venat. | 57·0 | 14·1 | 31·3 | 48·4 | 5·5 | 48 31·26 | − 0·12 | ......... | + 8·88 | 12 48 40·02 |
| | α Ursæ Minoris S.P. | ...... | 23·0 | ...... | 56·0 | ...... | 2 39·28 | + 7·09 | ......... | + 8·89 | 13 2 55·26 |
| | η Bootis | 35·4 | 49·4 | 3·5 | 17·6 | 31·6 | 47 3·50 | − 0·04 | + 8·94 | + 8·91 | 13 47 12·37 |
| | α Coronæ Borealis | 24·2 | 39·1 | 54·2 | 9·0 | 24·0 | 27 54·10 | − 0·07 | + 9·00 | + 8·99 | 15 28 3·02 |
| | α Serpentis | 57·0 | 10·3 | 23·6 | 37·0 | 50·4 | 36 23·66 | + 0·01 | + 9·00 | + 8·99 | 15 36 32·66 |
| | 19 Ursæ Minoris | 27·5 | 23·3 | 19·2 | 15·3 | 11·3 | 15 19·32 | − 0·74 | ......... | + 9·01 | 16 15 27·59 |
| | 33 Herculis | 38·9 | 52·3 | 5·8 | 19·1 | 32·6 | 29 5·74 | + 0·01 | ......... | + 9·02 | 16 29 14·77 |
| | 43 Herculis | 42·4 | 55·8 | 9·2 | 22·7 | 36·1 | 38 9·24 | 0·00 | ......... | + 9·02 | 16 38 18·26 |
| | 51 Herculis | 37·4 | 51·8 | 6·6 | 21·2 | 36·0 | 45 6·60 | − 0·06 | ......... | + 9·03 | 16 45 15·57 |
| | A.S.C. 1942 | 59·7 | 13·6 | 27·6 | 41·5 | 55·5 | 50 27·58 | + 0·09 | ......... | + 9·03 | 16 50 36·70 |
| | 19 Draconis | 0·5 | 32·6 | 4·7 | 36·6 | 8·4 | 55 4·56 | − 0·38 | ......... | + 9·03 | 16 55 13·21 |
| | $\nu^1$ Draconis | 12·0 | 35·4 | 58·6 | 21·8 | 45·4 | 28 58·64 | − 0·25 | ......... | + 9·05 | 17 29 7·44 |
| | ω Draconis | 34·0 | 10·8 | 47·7 | 24·6 | 1·4 | 37 47·70 | − 0·30 | ......... | + 9·06 | 17 37 56·46 |
| | 95 Herculis, preced. | 14·0 | 28·2 | 42·5 | 56·7 | 11·0 | 54 42·48 | − 0·04 | ......... | + 9·07 | 17 54 51·51 |
| | 107 Herculis | 15·7 | 30·6 | 45·8 | 1·1 | 16·2 | 14 45·88 | − 0·07 | ......... | + 9·08 | 18 14 54·89 |
| | 61 Serpentis | 15·9 | 29·1 | 42·5 | 55·7 | 9·0 | 23 42·44 | + 0·03 | ......... | + 9·08 | 18 23 51·55 |
| | 1 Aquilæ | 4·8 | 18·1 | 31·5 | 45·0 | 58·4 | 26 31·56 | + 0·06 | ......... | + 9·08 | 18 26 40·70 |
| | 46 Draconis | 42·3 | 5·7 | 28·8 | 52·6 | 15·8 | 39 29·04 | − 0·25 | ......... | + 9·09 | 18 39 37·88 |
| | Saturn 1 Limb Ring | ...... | 12·1 | ...... | 40·9 | ...... | 44 26·50 | + 0·11 | ......... | + 9·09 | 18 44 35·70 |
| | Saturn 2 Limb Ring | 0·9 | ...... | 29·6 | ...... | 58·4 | 44 29·63 | + 0·11 | ......... | + 9·09 | 18 44 38·83 |
| | $\theta^1$ Serpentis | 50·1 | 3·5 | 16·8 | 30·1 | 43·5 | 48 16·80 | + 0·01 | ......... | + 9·09 | 18 48 25·90 |
| | 14 Aquilæ | 3·6 | 17·0 | 30·2 | 43·5 | 56·9 | 54 30·24 | + 0·04 | ......... | + 9·10 | 18 54 39·38 |
| | λ Aquilæ | 20·1 | 33·4 | 46·8 | 0·2 | 13·5 | 57 46·80 | + 0·04 | ......... | + 9·10 | 18 57 55·94 |
| | 1 Sagittæ | 55·1 | 9·4 | 23·6 | 37·8 | 52·1 | 8 23·60 | − 0·04 | ......... | + 9·10 | 19 8 32·66 |
| | θ Lyræ | 14·0 | 30·6 | 47·6 | 4·6 | 21·3 | 10 47·62 | − 0·12 | ......... | + 9·11 | 19 10 56·61 |
| | Jupiter 1 Limb | ...... | 16·9 | ...... | 45·8 | ...... | 14 31·35 | + 0·11 | ......... | + 9·11 | 19 14 40·57 |
| | Jupiter 2 Limb | 6·0 | ...... | 34·8 | ...... | 3·7 | 14 34·83 | + 0·11 | ......... | + 9·11 | 19 14 44·05 |
| July 15 | Sun 1 Limb | ...... | 46·6 | 1·0 | 15·3 | 29·8 | 36 1·04 | − 0·01 | ......... | + 9·72 | 7 36 10·75 |
| | Sun 2 Limb | 48·3 | 2·6 | 16·8 | 31·3 | 45·6 | 38 16·92 | − 0·01 | ......... | + 9·72 | 7 38 26·63 |
| | Venus 1 Limb | 15·4 | 29·3 | 43·1 | 56·9 | 10·6 | 55 43·06 | + 0·02 | ......... | + 9·88 | 9 55 52·96 |
| | α Leonis | 21·8 | 35·4 | 49·0 | 2·6 | 16·1 | 59 48·98 | + 0·03 | + 9·88 | + 9·88 | 9 59 58·89 |
| | 12 Canum Venat. | 55·8 | 13·0 | 30·1 | 47·2 | 4·4 | 48 30·10 | − 0·11 | ......... | +10·07 | 12 48 40·06 |
| | α Ursæ Minoris S.P. | 2·5 | 19·5 | 36·5 | 56·0 | 11·0 | 2 37·10 | + 8·91 | ......... | +10·08 | 13 2 56·09 |
| | α Virginis | 18·1 | 31·5 | 45·0 | 58·6 | 12·0 | 16 45·04 | + 0·13 | +10·13 | +10·09 | 13 16 55·26 |
| | η Bootis | 34·1 | 48·2 | 2·2 | 16·3 | 30·5 | 47 2·26 | 0·00 | +10·13 | +10·11 | 13 47 12·37 |
| | Moon 1 Limb | 53·3 | 7·5 | 21·8 | 36·3 | 50·6 | 57 21·90 | + 0·16 | ......... | +10·12 | 13 57 32·18 |
| | α Bootis | 51·7 | 5·8 | 20·0 | 34·1 | 48·2 | 8 19·96 | 0·00 | +10·18 | +10·13 | 14 8 30·09 |
| | ε Bootis | 28·0 | 43·1 | 58·1 | 13·0 | 28·0 | 37 58·04 | − 0·04 | +10·06 | +10·15 | 14 38 8·15 |
| | $\alpha^2$ Libræ | 34·2 | 48·0 | 1·8 | 15·6 | 29·4 | 42 1·80 | + 0·15 | +10·26 | +10·16 | 14 42 12·11 |
| | 19 Ursæ Minoris | 26·2 | 22·0 | 18·2 | 14·2 | 10·2 | 15 18·16 | − 0·88 | ......... | +10·28 | 16 15 27·56 |
| | 30 Herculis | 44·4 | 2·2 | 20·3 | 38·2 | 56·0 | 23 20·22 | − 0·14 | ......... | +10·29 | 16 23 30·37 |
| | 15 Draconis | 57·7 | 34·8 | 12·2 | 49·6 | 26·7 | 28 12·20 | − 0·54 | ......... | +10·30 | 16 28 21·96 |
| | 43 Herculis | 41·4 | 54·6 | 8·0 | 21·4 | 34·8 | 38 8·04 | + 0·05 | ......... | +10·31 | 16 38 18·40 |
| | 50 Herculis | 51·3 | 6·7 | 22·1 | 37·4 | 52·8 | 44 22·06 | − 0·06 | ......... | +10·31 | 16 44 32·31 |
| | 23 Ophiuchi | 35·8 | 49·2 | 2·6 | 15·9 | 29·3 | 46 2·56 | + 0·11 | ......... | +10·32 | 16 46 12·99 |
| | A.S.C. 1942 | 58·5 | 12·3 | 26·5 | 40·4 | 54·2 | 50 26·38 | + 0·16 | ......... | +10·33 | 16 50 36·87 |
| | 19 Draconis | 59·5 | 31·6 | 3·5 | 35·6 | 7·4 | 55 3·52 | − 0·44 | ......... | +10·33 | 16 55 13·41 |
| | $\nu^2$ Draconis | 15·8 | 39·0 | 2·4 | 25·8 | 49·1 | 29 2·42 | − 0·26 | ......... | +10·34 | 17 29 12·50 |
| | ω Draconis | 32·6 | 9·6 | 46·2 | 23·2 | 0·0 | 37 46·32 | − 0·52 | ......... | +10·35 | 17 37 56·15 |
| | 95 Herculis, preced. | 12·6 | 26·8 | 41·1 | 55·5 | 9·7 | 54 41·14 | − 0·01 | ......... | +10·38 | 17 54 51·51 |
| | ϰ Lyræ | 39·8 | 56·1 | 12·7 | 29·2 | 45·7 | 14 12·70 | − 0·09 | ......... | +10·39 | 18 14 23·00 |
| | 59 Serpentis | 34·5 | 47·7 | 1·1 | 14·5 | 27·7 | 19 1·10 | + 0·09 | ......... | +10·40 | 18 19 11·59 |
| | δ Ursæ Minoris | 48·5 | ...... | 16·5 | ...... | 43·0 | 23 15·84 | − 3·87 | ......... | +10·41 | 18 23 22·38 |
| | 1 Aquilæ | 3·5 | 16·8 | 30·2 | 43·6 | 57·1 | 26 30·24 | + 0·11 | ......... | +10·42 | 18 26 40·77 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 15 | 46 Draconis | 40·8 | 4·1 | 27·5 | 50·9 | 14·4 | 39 27·54 | − 0·26 | ......... | +10·43 | 18 39 37·71 |
| | Saturn 1 Limb Ring | 38·0 | ...... | 7·0 | ...... | 35·8 | 44 6·93 | + 0·18 | ......... | +10·44 | 18 44 17·55 |
| | Saturn 2 Limb Ring | ...... | 55·5 | ...... | 24·4 | ...... | 44 9·95 | + 0·18 | ......... | +10·44 | 18 44 20·57 |
| | θ² Serpentis | 50·3 | 3·6 | 16·8 | 30·1 | 43·4 | 48 16·84 | + 0·07 | ......... | +10·45 | 18 48 27·36 |
| | 48 Draconis | 8·3 | 32·8 | 57·8 | 22·6 | 47·6 | 54 57·82 | − 0·29 | ......... | +10·46 | 18 55 7·99 |
| | λ Aquilæ | 18·8 | 32·2 | 45·5 | 58·8 | 12·1 | 57 45·48 | + 0·11 | ......... | +10·46 | 18 57 56·05 |
| | 1 Sagittæ | 53·8 | 8·0 | 22·2 | 36·4 | 50·8 | 8 22·24 | − 0·01 | ......... | +10·46 | 19 8 32·69 |
| | θ Lyræ | 12·7 | 29·5 | 46·3 | 3·1 | 19·9 | 10 46·30 | − 0·10 | ......... | +10·47 | 19 10 56·67 |
| | Jupiter 1 Limb | 28·5 | ...... | 57·2 | ...... | 25·9 | 13 57·20 | + 0·18 | ......... | +10·47 | 19 14 7·85 |
| | Jupiter 2 Limb | ...... | 46·3 | ...... | 15·1 | ...... | 14 0·70 | + 0·18 | ......... | +10·47 | 19 14 11·36 |
| | 3 Vulpeculæ | 46·3 | 1·2 | 16·1 | 30·9 | 45·8 | 16 16·06 | − 0·03 | ......... | +10·48 | 19 16 26·51 |
| July 16 | Sun 2 Limb | 49·5 | 3·8 | 18·2 | 32·5 | 46·7 | 42 18·14 | − 0·25 | ......... | +11·16 | 7 42 29·05 |
| | Venus 1 Limb | 49·0 | 2·8 | 16·6 | 30·3 | 43·9 | 0 16·52 | − 0·24 | ......... | +11·27 | 10 0 27·55 |
| | (*a*) α Ursæ Minoris S.P. | ...... | 26·0 | 42·5 | 1·0 | 18·0 | 2 43·68 | + 1·69 | ......... | +11·43 | 13 2 56·80 |
| | α Virginis | 17·1 | 30·5 | 44·0 | 57·6 | 11·0 | 16 44·04 | − 0·22 | +11·47 | +11·44 | 13 16 55·26 |
| | α Bootis | 50·7 | 4·7 | 18·8 | 33·0 | 47·1 | 8 18·86 | − 0·25 | +11·52 | +11·50 | 14 8 30·11 |
| | λ Virginis | ...... | 12·6 | 26·0 | 39·6 | 53·1 | 10 26·02 | − 0·21 | ......... | +11·51 | 14 10 37·32 |
| | ε Bootis | 26·8 | 41·8 | 56·9 | 11·9 | 26·8 | 37 56·84 | − 0·25 | +11·46 | +11·53 | 14 38 8·12 |
| | α² Libræ | 33·4 | 47·0 | 0·8 | 14·6 | 28·3 | 42 0·82 | − 0·22 | +11·61 | +11·54 | 14 42 12·14 |
| | Moon 1 Limb | 30·9 | 45·8 | 0·6 | 15·4 | 30·1 | 54 0·56 | − 0·21 | ......... | +11·55 | 14 54 11·90 |
| | β Libræ | 55·9 | 9·2 | 22·7 | 36·2 | 49·6 | 8 22·72 | − 0·22 | +11·58 | +11·55 | 15 8 34·05 |
| | α Coronæ Borealis | 21·9 | 36·8 | 51·8 | 6·7 | 21·7 | 27 51·78 | − 0·26 | +11·48 | +11·56 | 15 28 3·08 |
| | η Ursæ Minoris | 13·6 | 8·8 | 3·9 | 59·6 | 55·0 | 22 4·18 | − 0·95 | ......... | +11·60 | 16 22 14·83 |
| | 15 Draconis | 56·5 | 33·8 | 11·0 | 48·3 | 25·6 | 28 11·04 | − 0·58 | ......... | +11·61 | 16 28 22·07 |
| | η Herculis | 46·5 | 3·6 | 20·8 | 38·0 | 55·0 | 37 20·78 | − 0·14 | ......... | +11·62 | 16 37 32·26 |
| | 50 Herculis | 50·4 | 5·6 | 21·0 | 36·3 | 51·7 | 44 21·00 | − 0·09 | ......... | +11·63 | 16 44 32·54 |
| | ϱ Herculis | 32·8 | 49·3 | 6·0 | 22·8 | 39·5 | 18 6·08 | − 0·13 | ......... | +11·65 | 17 18 17·60 |
| | 96 Herculis | 1·8 | 16·0 | 30·3 | 44·4 | 58·6 | 55 30·22 | − 0·04 | ......... | +11·68 | 17 55 41·86 |
| | ϰ Lyræ | 39·0 | 55·4 | 11·7 | 28·0 | 44·4 | 14 11·70 | − 0·12 | ......... | +11·69 | 18 14 23·27 |
| | δ Ursæ Minoris | 48·0 | 31·0 | 15·0 | ...... | 43·0 | 23 15·09 | − 3·99 | ......... | +11·69 | 18 23 22·79 |
| | A.S.C. 2146 | 35·1 | 49·4 | 4·0 | 18·5 | 33·0 | 26 4·00 | − 0·06 | ......... | +11·70 | 18 26 15·64 |
| | ζ¹ Lyræ | 38·6 | 55·4 | 12·1 | 28·8 | 45·6 | 39 12·10 | − 0·13 | ......... | +11·70 | 18 39 23·67 |
| | Saturn 1 Limb Ring | ...... | 33·0 | ...... | 1·9 | ...... | 43 47·45 | + 0·15 | ......... | +11·71 | 18 43 59·31 |
| | Saturn 2 Limb Ring | 22·1 | ...... | 50·8 | ...... | 19·6 | 43 50·83 | + 0·15 | ......... | +11·71 | 18 44 2·69 |
| | θ² Serpentis | 49·2 | 2·4 | 15·8 | 29·1 | 42·4 | 48 15·78 | + 0·03 | ......... | +11·71 | 18 48 27·52 |
| | 48 Draconis | 7·4 | 32·0 | 57·2 | 21·8 | 46·6 | 53 57·10 | − 0·33 | ......... | +11·72 | 18 54 8·49 |
| | λ Aquilæ | 17·6 | 30·9 | 44·2 | 57·7 | 11·0 | 57 44·28 | + 0·08 | ......... | +11·72 | 18 57 56·08 |
| | 1 Sagittæ | 52·8 | 7·0 | 21·1 | 35·2 | 49·6 | 8 21·14 | − 0·04 | ......... | +11·73 | 19 8 32·83 |
| | Jupiter 1 Limb | ...... | 8·2 | ...... | 37·8 | ...... | 13 23·00 | + 0·15 | ......... | +11·73 | 19 13 34·88 |
| | Jupiter 2 Limb | 58·2 | ...... | 27·2 | ...... | 56·1 | 13 27·17 | + 0·15 | ......... | +11·73 | 19 13 39·05 |
| July 19 | Venus 1 Limb | 21·9 | 35·6 | 49·2 | 2·8 | 16·8 | 13 49·26 | + 0·01 | ......... | +14·79 | 10 14 4·06 |
| | 12 Canum Venat. | 50·8 | 7·7 | 25·0 | 42·2 | 59·4 | 48 25·02 | + 0·09 | ......... | +14·90 | 12 48 39·83 |
| | α Ursæ Minoris S.P. | 4·0 | 22·0 | ...... | 53·5 | 11·0 | 2 37·56 | + 6·91 | ......... | +14·92 | 13 2 59·39 |
| | α Bootis | ...... | 1·0 | 15·1 | 29·2 | ...... | 8 15·10 | − 0·01 | +15·00 | +14·98 | 14 8 30·07 |
| | ε Bootis | 23·0 | 38·0 | 53·0 | 8·1 | 23·1 | 37 53·04 | − 0·04 | +15·00 | +15·03 | 14 38 8·03 |
| July 20 | α Aurigæ | 8·5 | 27·7 | 46·8 | 6·0 | 25·0 | 4 46·80 | − 0·13 | ......... | +17·35 | 5 5 4·02 |
| | β Tauri | 33·1 | 48·2 | 3·3 | 18·4 | 33·5 | 16 3·30 | − 0·04 | +17·40 | +17·36 | 5 16 20·62 |
| | Mercury 2 Limb | 3·6 | 17·8 | 31·8 | 45·9 | 59·9 | 50 31·80 | 0·00 | ......... | +17·46 | 6 50 49·26 |
| July 21 | Sun 1 Limb | 33·0 | 47·2 | 1·6 | 15·8 | 29·9 | 0 1·50 | − 0·02 | ......... | +17·56 | 8 0 19·04 |
| | Sun 2 Limb | 48·1 | 2·4 | 16·5 | 30·5 | 45·0 | 2 16·50 | − 0·02 | ......... | +17·56 | 8 2 34·04 |
| | α Leonis | 13·9 | 27·7 | 41·2 | 54·8 | 8·6 | 59 41·24 | + 0·01 | +17·63 | +17·64 | 9 59 58·89 |
| | Venus 1 Limb | 17·4 | 30·9 | 44·6 | 58·3 | 11·8 | 22 44·60 | + 0·01 | ......... | +17·66 | 10 23 2·27 |
| | α Ursæ Minoris S.P. | 2·0 | 18·0 | 35·0 | 53·0 | 9·5 | 2 35·50 | + 7·74 | ......... | +17·79 | 13 3 1·03 |
| | α Virginis | 10·4 | 23·8 | 37·2 | 50·8 | 4·4 | 16 37·32 | + 0·09 | +17·83 | +17·80 | 13 16 55·21 |

(*a*) This observation gives a strangely sudden change in the error of azimuth, which seems to have returned again to its original quantity at the transit of δ Ursæ Minoris, but was, in all its discrepancy, at 15ʰ Sid. Time, when the meridian marks were observed. An accidental blow is suspected, but the original entries furnish no information.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 21 | α Coronæ Borealis | 15·2 | 30·1 | 45·1 | 0·1 | 15·0 | 27 45·10 | – 0·06 | +17·90 | +17·87 | 15 28 2·91 |
| | 15 Draconis | 49·7 | 27·0 | 4·5 | 41·7 | 18·8 | 28 4·34 | – 0·48 | ········· | +17·90 | 16 28 21·76 |
| | η Herculis | 39·9 | 56·9 | 14·1 | 31·2 | 48·4 | 37 14·10 | – 0·11 | ········· | +17·90 | 16 37 31·89 |
| | 18 Draconis | 33·0 | 4·2 | 35·5 | 6·8 | 38·1 | 39 35·52 | – 0·39 | ········· | +17·91 | 16 39 53·04 |
| | 50 Herculis | 43·6 | 59·0 | 14·5 | 29·8 | 45·2 | 44 14·42 | – 0·07 | ········· | +17·91 | 16 44 32·26 |
| | Groombridge 2427 | 40·5 | 33·5 | 26·8 | 20·0 | 13·0 | 6 26·76 | – 0·75 | ········· | +17·93 | 17 6 43·94 |
| | ϱ Herculis | 25·8 | 42·6 | 59·4 | 16·2 | 32·6 | 17 59·32 | – 0·11 | ········· | +17·94 | 17 18 17·15 |
| | α Ophiuchi | 54·7 | 8·1 | 21·8 | 35·5 | 49·0 | 27 21·82 | 0·00 | +17·91 | +17·95 | 17 27 39·77 |
| | 96 Herculis | 55·1 | 9·4 | 23·6 | 37·8 | 52·0 | 55 23·58 | – 0·02 | ········· | +17·97 | 17 55 41·53 |
| | 40 Draconis | 4·6 | 20·5 | 37·3 | 53·5 | 10·0 | 11 37·18 | – 1·12 | ········· | +17·98 | 18 11 54·04 |
| | δ Ursæ Minoris | 40·0 | 23·5 | 8·0 | ······ | 35·0 | 23 7·47 | – 3·39 | ········· | +17·98 | 18 23 22·06 |
| | A.S.C. 2146 | 28·5 | 43·0 | 57·4 | 11·9 | 26·4 | 25 57·44 | – 0·04 | ········· | +17·98 | 18 26 15·38 |
| | $\zeta^1$ Lyræ | 31·9 | 48·8 | 5·5 | 22·4 | 39·1 | 39 5·54 | – 0·11 | ········· | +17·99 | 18 39 23·42 |
| | $\theta^2$ Serpentis | 42·5 | 55·8 | 9·2 | 22·6 | 35·9 | 48 9·20 | + 0·04 | ········· | +18·00 | 18 48 27·24 |
| | ζ Aquilæ | 27·4 | 41·1 | 54·8 | 8·4 | 22·1 | 57 54·76 | 0·00 | ········· | +18·01 | 18 58 12·77 |
| | ϖ Sagittarii | 39·8 | 54·0 | 8·2 | 22·5 | 36·8 | 0 8·26 | – 0·06 | ········· | +18·01 | 19 0 26·21 |
| | η Lyræ | 34·3 | 51·2 | 8·3 | 25·6 | 42·6 | 8 8·40 | – 0·11 | ········· | +18·01 | 19 8 26·30 |
| | Jupiter 1 Limb | 7·6 | ······ | 36·2 | ······ | 5·0 | 10 36·27 | + 0·14 | ········· | +18·01 | 19 10 54·42 |
| | Jupiter 2 Limb | ······ | 25·4 | ······ | 54·2 | ······ | 10 39·80 | + 0·14 | ········· | +18·01 | 19 10 57·95 |
| | ϰ Cygni | 28·4 | 50·3 | 12·6 | 34·5 | 56·8 | 13 12·52 | – 0·22 | ········· | +18·01 | 19 13 30·31 |
| | ν Aquilæ | 45·6 | 58·9 | 12·2 | 25·5 | 38·7 | 18 12·18 | + 0·05 | ········· | +18·01 | 19 18 30·24 |
| | 8 Vulpeculæ | 38·0 | 52·4 | 7·2 | 21·8 | 36·4 | 22 7·16 | – 0·04 | ········· | +18·02 | 19 22 25·14 |
| | $\beta^1$ Cygni | 36·6 | 51·7 | 6·7 | 21·6 | 36·8 | 24 6·68 | – 0·06 | ········· | +18·02 | 19 24 24·64 |
| | 52 Sagittarii | 22·6 | 37·0 | 51·8 | 6·5 | 21·4 | 26 51·86 | + 0·15 | ········· | +18·02 | 19 27 10·03 |
| | 42 Aquilæ | 43·8 | 57·1 | 10·3 | 23·8 | 37·1 | 29 10·42 | + 0·07 | ········· | +18·02 | 19 29 28·51 |
| | α Sagittæ | 20·0 | 34·0 | 47·8 | 1·8 | 15·5 | 32 47·82 | – 0·01 | ········· | +18·02 | 19 33 5·83 |
| | χ Aquilæ | 26·8 | 40·2 | 53·8 | 7·4 | 21·0 | 34 53·84 | + 0·01 | ········· | +18·02 | 19 35 11·87 |
| | Moon 1 Limb | 41·8 | 56·6 | 11·0 | 25·8 | 40·8 | 40 11·20 | + 0·14 | ········· | +18·03 | 19 40 29·37 |
| | 54 Aquilæ | 46·4 | 59·8 | 13·2 | 26·7 | 40·3 | 43 13·28 | + 0·02 | ········· | +18·03 | 19 43 31·33 |
| | 58 Aquilæ | 58·6 | 11·8 | 25·1 | 38·4 | 51·7 | 46 25·12 | + 0·05 | ········· | +18·03 | 19 46 43·20 |
| | 10 Sagittæ | 8·7 | 22·5 | 36·5 | 50·2 | 4·1 | 48 36·40 | 0·00 | ········· | +18·03 | 19 48 54·43 |
| | 62 Aquilæ | 34·0 | 47·4 | 0·7 | 14·0 | 27·3 | 56 0·68 | + 0·05 | ········· | +18·04 | 19 56 18·77 |
| | 64 Aquilæ | 11·6 | 24·8 | 38·2 | 51·4 | 4·6 | 59 38·12 | + 0·05 | ········· | +18·04 | 19 59 56·21 |
| | 18 Vulpeculæ | 14·0 | 28·8 | 43·5 | 58·5 | 13·4 | 3 43·64 | – 0·05 | ········· | +18·04 | 20 4 1·63 |
| | ϱ Aquilæ | 16·2 | 30·0 | 43·8 | 57·4 | 11·3 | 6 43·74 | 0·00 | ········· | +18·04 | 20 7 1·78 |
| | $\alpha^2$ Capricorni | 36·0 | 49·5 | 3·1 | 17·0 | 30·5 | 9 3·22 | + 0·10 | +18·05 | +18·04 | 20 9 21·36 |
| | 39 Cygni | 47·6 | 3·1 | 18·8 | 34·4 | 50·0 | 17 18·78 | – 0·07 | ········· | +18·05 | 20 17 36·76 |
| | ϱ Capricorni | 8·9 | 22·8 | 36·8 | 50·8 | 4·8 | 19 36·82 | + 0·12 | ········· | +18·05 | 20 19 54·99 |
| July 22 | Sun 1 Limb | 31·2 | 45·3 | 59·6 | 13·7 | 28·0 | 3 59·56 | + 0·01 | ········· | +18·71 | 8 4 18·28 |
| | Sun 2 Limb | 46·2 | 0·1 | 14·4 | 28·6 | 42·8 | 6 14·42 | + 0·01 | ········· | +18·71 | 8 6 33·14 |
| | α Leonis | 12·7 | 26·3 | 40·0 | 53·7 | 7·2 | 59 39·98 | + 0·03 | +18·87 | +18·86 | 9 59 58·87 |
| | Venus 1 Limb | 43·4 | 56·9 | 10·3 | 24·0 | 37·8 | 27 10·48 | + 0·04 | ········· | +18·88 | 10 27 29·40 |
| | α Ursæ Minoris S.P. | 2·0 | 17·0 | 34·0 | 52·0 | 8·0 | 2 34·60 | + 8·09 | ········· | +19·10 | 13 3 1·79 |
| | α Virginis | 9·0 | 22·4 | 36·0 | 49·4 | 17·29 | 16 35·94 | + 0·13 | +19·16 | +19·11 | 13 16 55·18 |
| | α Bootis | 42·7 | 56·7 | 10·8 | 25·0 | 39·1 | 8 10·86 | + 0·01 | +19·18 | +19·16 | 14 8 30·03 |
| | 15 Draconis | 48·3 | 25·7 | 3·0 | 40·2 | 17·5 | 28 2·94 | – 0·47 | ········· | +19·28 | 16 28 21·75 |
| | 18 Draconis | 31·5 | 2·8 | 34·3 | 5·5 | 36·8 | 39 34·18 | – 0·37 | ········· | +19·29 | 16 39 53·10 |
| | 52 Herculis | 42·1 | 1·5 | 20·7 | 39·8 | 59·1 | 44 20·64 | – 0·13 | ········· | +19·30 | 16 44 39·81 |
| | Groombridge 2427 | 39·0 | 32·2 | 25·4 | 18·6 | 11·5 | 6 25·34 | – 0·75 | ········· | +19·33 | 17 6 43·92 |
| | ϱ Herculis | 24·6 | 41·3 | 58·0 | 14·8 | 31·5 | 17 58·04 | – 0·09 | ········· | +19·34 | 17 18 17·29 |
| | α Ophiuchi | 53·0 | 6·7 | 20·2 | 34·0 | 47·5 | 27 20·28 | + 0·03 | +19·42 | +19·35 | 17 27 39·66 |
| | A.S.C. 2084 | 17·0 | 16·5 | 16·5 | 15·8 | 14·2 | 56 16·00 | – 0·84 | ········· | +19·39 | 17 56 34·55 |
| | 40 Draconis | 3·0 | 19·4 | 35·8 | 52·0 | 8·2 | 11 35·68 | – 1·13 | ········· | +19·40 | 18 11 53·95 |
| | δ Ursæ Minoris | 38·0 | 22·0 | ······ | 50·0 | 33·0 | 23 5·80 | – 3·49 | ········· | +19·42 | 18 23 21·73 |
| | χ Draconis | 9·3 | 53·6 | 38·5 | 23·2 | 7·8 | 23 38·48 | – 0·60 | ········· | +19·42 | 18 23 57·30 |
| | $\zeta^1$ Lyræ | 30·5 | 47·2 | 4·1 | 20·8 | 37·5 | 39 4·02 | – 0·08 | ········· | +19·43 | 18 39 23·37 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | | observed. | interpolated. | | | |
| | | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| July 22 | Saturn 1 Limb Ring | 24·4 | ...... | 53·3 | ...... | 22·1 | 41 | 53·27 | + 0·17 | ......... | +19·44 | 18 | 42 | 12·88 |
| | Saturn 2 Limb Ring | ...... | 42·1 | ...... | 10·8 | ...... | 41 | 56·45 | + 0·17 | ......... | +19·44 | 18 | 42 | 16·06 |
| | 113 Herculis ......... | 20·2 | 34·5 | 48·9 | 3·3 | 17·8 | 47 | 48·94 | − 0·01 | ......... | +19·45 | 18 | 48 | 8·38 |
| | υ Draconis ............. | 41·3 | 22·4 | 3·3 | 44·3 | 25·5 | 56 | 3·36 | − 0·53 | ......... | +19·46 | 18 | 56 | 22·29 |
| | η Lyræ.................. | 32·8 | 49·9 | 7·0 | 24·1 | 41·1 | 8 | 6·98 | − 0·09 | ......... | +19·47 | 19 | 8 | 26·36 |
| | Jupiter 1 Limb....... | ...... | 48·8 | ...... | 17·8 | ...... | 10 | 3·30 | + 0·17 | ......... | +19·48 | 19 | 10 | 22·95 |
| | Jupiter 2 Limb....... | 37·9 | ...... | 6·6 | ...... | 35·6 | 10 | 6·70 | + 0·17 | ......... | +19·48 | 19 | 10 | 26·35 |
| | ϰ Cygni................. | 27·0 | 49·0 | 11·1 | 33·2 | 55·4 | 13 | 11·14 | − 0·20 | ......... | +19·48 | 19 | 13 | 30·42 |
| | ν Aquilæ ............... | 44·1 | 57·3 | 10·7 | 24·0 | 37·2 | 18 | 10·66 | + 0·09 | ......... | +19·48 | 19 | 18 | 30·23 |
| | 8 Vulpeculæ .......... | 36·4 | 51·2 | 5·8 | 20·4 | 35·1 | 22 | 5·78 | − 0·01 | ......... | +19·49 | 19 | 22 | 25·26 |
| | $\beta^1$ Cygni ............... | 35·2 | 50·1 | 5·3 | 20·3 | 35·2 | 24 | 5·22 | − 0·03 | ......... | +19·49 | 19 | 24 | 24·68 |
| | 37 Aquilæ ............. | 42·4 | 55·9 | 9·2 | 22·8 | 36·5 | 26 | 9·36 | + 0·13 | ......... | +19·49 | 19 | 26 | 28·98 |
| | ϰ Aquilæ............... | 41·2 | 54·6 | 8·1 | 21·5 | 35·0 | 28 | 8·08 | − 0·11 | ......... | +19·49 | 19 | 28 | 27·46 |
| | α Sagittæ .............. | 18·6 | 32·2 | 46·2 | 0·3 | 14·1 | 32 | 46·28 | + 0·01 | ......... | +19·50 | 19 | 33 | 5·79 |
| | χ Aquilæ............... | 25·2 | 38·7 | 52·2 | 5·8 | 19·4 | 34 | 52·26 | + 0·04 | ......... | +19·50 | 19 | 35 | 11·80 |
| | 10 Vulpeculæ......... | 23·7 | 38·4 | 53·1 | 8·0 | 22·6 | 36 | 53·16 | − 0·01 | ......... | +19·50 | 19 | 37 | 12·65 |
| | ζ Sagittæ.............. | 14·0 | 28·1 | 42·2 | 56·2 | 10·2 | 41 | 42·14 | + 0·01 | ......... | +19·51 | 19 | 42 | 1·66 |
| | 12 Vulpeculæ......... | 31·6 | 45·8 | 0·2 | 14·5 | 29·0 | 44 | 0·22 | 0·00 | ......... | +19·51 | 19 | 44 | 19·73 |
| | ξ Aquilæ............... | 53·0 | 6·4 | 19·8 | 33·3 | 46·7 | 46 | 19·84 | + 0·05 | ......... | +19·51 | 19 | 46 | 39·40 |
| | φ Aquilæ............... | 2·6 | 16·1 | 29·7 | 43·2 | 56·8 | 48 | 29·68 | + 0·10 | ......... | +19·51 | 19 | 48 | 49·29 |
| | 62 Aquilæ ............. | 32·3 | 45·8 | 59·2 | 12·5 | 25·8 | 55 | 59·12 | + 0·09 | ......... | +19·52 | 19 | 56 | 18·73 |
| | 64 Aquilæ ............. | 10·2 | 23·4 | 36·6 | 50·0 | 3·3 | 59 | 36·70 | + 0·09 | ......... | +19·52 | 19 | 59 | 56·31 |
| | 18 Vulpeculæ......... | 12·4 | 27·3 | 42·2 | 57·0 | 11·9 | 3 | 42·16 | − 0·03 | ......... | +19·53 | 20 | 4 | 1·66 |
| | ϱ Aquilæ............... | 14·8 | 28·5 | 42·3 | 56·1 | 9·7 | 6 | 42·28 | + 0·03 | ......... | +19·53 | 20 | 7 | 1·84 |
| | $\alpha^2$ Capricorni ......... | 34·5 | 48·1 | 1·8 | 15·4 | 29·0 | 9 | 1·76 | + 0·13 | +19·49 | +19·53 | 20 | 9 | 21·42 |
| | 39 Cygni................ | 46·1 | 1·6 | 17·2 | 32·9 | 48·4 | 17 | 17·24 | − 0·05 | ......... | +19·54 | 20 | 17 | 36·73 |
| | ϱ Capricorni............ | 7·5 | 21·3 | 35·3 | 49·2 | 3·3 | 19 | 35·32 | + 0·15 | ......... | +19·54 | 20 | 19 | 55·01 |
| | ε Delphini.............. | 57·1 | 10·5 | 24·1 | 37·7 | 51·2 | 25 | 24·12 | + 0·05 | ......... | +19·55 | 20 | 25 | 43·72 |
| | ζ Delphini ............. | 12·2 | 26·0 | 39·8 | 53·4 | 7·0 | 27 | 39·68 | + 0·03 | ......... | +19·55 | 20 | 27 | 59·26 |
| | 71 Aquilæ ............. | 28·5 | 41·8 | 55·1 | 8·4 | 21·6 | 29 | 55·08 | + 0·09 | ......... | +19·55 | 20 | 30 | 14·72 |
| | Moon 2 Limb......... | 40·7 | 55·1 | 9·4 | 23·8 | 38·1 | 33 | 9·42 | + 0·15 | ......... | +19·56 | 20 | 33 | 29·13 |
| | δ Delphini ............. | 21·7 | 35·5 | 49·2 | 3·0 | 16·6 | 35 | 49·20 | + 0·03 | ......... | +19·56 | 20 | 36 | 8·79 |
| | 3 Aquarii................ | 41·7 | 55·0 | 8·3 | 21·7 | 35·1 | 39 | 8·36 | + 0·11 | ......... | +19·56 | 20 | 39 | 28·03 |
| | μ Aquarii............... | 25·4 | 38·8 | 52·2 | 5·7 | 19·1 | 43 | 52·24 | + 0·12 | ......... | +19·57 | 20 | 44 | 11·93 |
| | A.S.C. 2476, follow.. | 3·7 | 17·0 | 30·4 | 43·6 | 57·0 | 47 | 30·34 | + 0·07 | ......... | +19·57 | 20 | 47 | 49·98 |
| | ν Cygni.................. | 26·3 | 43·6 | 1·4 | 18·9 | 36·3 | 51 | 1·30 | − 0·09 | ......... | +19·58 | 20 | 51 | 20·79 |
| | λ Equulei, following . | 42·8 | 56·2 | 9·6 | 22·8 | 36·3 | 54 | 9·54 | + 0·05 | ......... | +19·58 | 20 | 54 | 29·17 |
| | ζ Equulei................ | 0·1 | 13·6 | 26·9 | 40·2 | 53·6 | 56 | 26·88 | + 0·07 | ......... | +19·58 | 20 | 56 | 46·53 |
| | ξ Cygni ................. | 19·0 | 37·2 | 55·3 | 13·5 | 31·8 | 58 | 55·36 | − 0·11 | ......... | +19·59 | 20 | 59 | 14·84 |
| | 29 Capricorni......... | 16·8 | 30·4 | 44·3 | 58·1 | 12·0 | 6 | 44·32 | + 0·15 | ......... | +19·59 | 21 | 7 | 4·06 |
| | Mercury 2 Limb...... | 15·3 | 29·4 | 43·4 | 57·5 | 11·6 | 52 | 43·44 | + 0·01 | ......... | +20·26 | 6 | 53 | 3·71 |
| July 23 | Sun 1 Limb ........... | 28·4 | 42·7 | 56·8 | 11·0 | 25·1 | 7 | 56·80 | + 0·07 | ......... | +20·34 | 8 | 8 | 17·21 |
| | Sun 2 Limb ........... | 43·3 | 57·5 | 11·6 | 25·8 | 39·8 | 10 | 11·60 | + 0·07 | ......... | +20·34 | 8 | 10 | 32·01 |
| | Venus 1 Limb........ | 8·1 | 21·5 | 35·1 | 48·8 | 2·2 | 31 | 35·14 | + 0·12 | ......... | +20·50 | 10 | 31 | 55·76 |
| | 12 Canum Venat. .... | 45·0 | 2·2 | 19·3 | 36·5 | 53·7 | 48 | 19·34 | − 0·06 | ......... | +20·62 | 12 | 48 | 39·90 |
| | α Ursæ Minoris S.P. | 57·5 | 14·0 | 31·5 | 47·0 | 4·5 | 2 | 30·90 | +10·78 | ......... | +20·64 | 13 | 3 | 2·32 |
| | α Virginis.............. | 7·4 | 20·8 | 34·3 | 47·8 | 1·3 | 16 | 34·32 | + 0·22 | +20·68 | +20·66 | 13 | 16 | 55·20 |
| | α Bootis ................ | 41·1 | 55·1 | 9·3 | 23·3 | 37·5 | 8 | 9·26 | + 0·07 | +20·71 | +20·72 | 14 | 8 | 30·05 |
| | η Ursæ Minoris....... | 3·2 | 58·5 | 54·0 | 49·4 | 44·8 | 21 | 53·98 | − 0·98 | ......... | +20·81 | 16 | 22 | 13·81 |
| | 15 Draconis............ | 46·4 | 23·8 | 1·3 | 38·5 | 15·7 | 28 | 1·14 | − 0·57 | ......... | +20·82 | 16 | 28 | 21·39 |
| | 52 Herculis............ | 40·6 | 59·8 | 18·9 | 38·2 | 57·4 | 44 | 18·98 | − 0·13 | ......... | +20·84 | 16 | 44 | 39·69 |
| | Groombridge 2427... | 37·6 | 30·6 | 23·5 | 16·6 | 9·8 | 6 | 23·62 | − 0·93 | ......... | +20·86 | 17 | 6 | 43·55 |
| | α Ophiuchi ............ | 51·5 | 5·1 | 18·8 | 32·4 | 45·9 | 27 | 18·74 | + 0·10 | +20·88 | +20·88 | 17 | 27 | 39·72 |
| | A.S.C. 2084............ | 17·0 | 15·5 | 14·8 | 13·5 | 13·0 | 56 | 14·76 | − 1·06 | ......... | +20·90 | 17 | 56 | 34·60 |
| | 40 Draconis............ | 1·5 | 18·0 | 34·3 | 50·5 | 7·0 | 11 | 34·26 | − 1·44 | ......... | +20·91 | 18 | 11 | 53·73 |
| | δ Ursæ Minoris....... | 37·0 | 19·5 | ...... | 48·0 | 32·0 | 23 | 4·15 | − 4·58 | ......... | +20·92 | 18 | 23 | 20·49 |
| | χ Draconis ............ | 8·0 | 52·2 | 37·0 | 21·8 | 5·8 | 23 | 36·96 | − 0·74 | ......... | +20·92 | 18 | 23 | 57·14 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 23 | 5 Lyræ, preceding | 16·8 | 34·0 | 51·1 | 8·4 | 25·5 | 38 51·16 | − 0·06 | ......... | +20·93 | 18 39 12·03 |
| | Saturn 1 Limb Ring | ...... | 20·1 | ...... | 48·9 | ...... | 41 34·50 | + 0·29 | ......... | +20·93 | 18 41 55·72 |
| | Saturn 2 Limb Ring | 9·0 | ...... | 37·9 | ...... | 6·5 | 41 37·80 | + 0·29 | ......... | +20·93 | 18 41 59·02 |
| | β Lyræ | 25·6 | 41·5 | 57·5 | 13·3 | 29·2 | 43 57·42 | − 0·02 | +20·91 | +20·93 | 18 44 18·33 |
| | 113 Herculis | 18·4 | 33·0 | 47·3 | 1·7 | 16·1 | 47 47·30 | + 0·06 | ......... | +20·94 | 18 48 8·30 |
| | υ Draconis | 39·7 | 20·5 | 2·0 | 43·0 | 24·0 | 56 1·84 | − 0·66 | ......... | +20·95 | 18 56 22·13 |
| | Jupiter 1 Limb | 1·6 | ...... | 30·3 | ...... | 59·0 | 9 30·30 | + 0·29 | ......... | +20·95 | 19 9 51·54 |
| | Jupiter 2 Limb | ...... | 19·6 | ...... | 48·2 | ...... | 9 33·90 | + 0·29 | ......... | +20·95 | 19 9 55·14 |
| | ϰ Cygni | 25·4 | 47·2 | 9·2 | 31·5 | 53·8 | 13 9·42 | − 0·20 | ......... | +20·96 | 19 13 30·18 |
| | 31 Aquilæ | 41·8 | 55·4 | 9·0 | 22·6 | 36·1 | 17 8·98 | + 0·11 | ......... | +20·96 | 19 17 30·05 |
| | 8 Vulpeculæ | 35·0 | 49·5 | 4·1 | 18·7 | 33·5 | 22 4·16 | + 0·04 | ......... | +20·97 | 19 22 25·17 |
| | $\beta^1$ Cygni | 33·5 | 48·6 | 3·6 | 18·7 | 33·8 | 24 3·64 | + 0·02 | ......... | +20·97 | 19 24 24·63 |
| | 37 Aquilæ | 40·8 | 54·2 | 7·7 | 21·3 | 35·0 | 26 7·80 | + 0·22 | ......... | +20·97 | 19 26 28·99 |
| | ϰ Aquilæ | 39·6 | 53·1 | 6·4 | 19·9 | 33·2 | 28 6·44 | + 0·21 | ......... | +20·98 | 19 28 27·63 |
| | α Sigittæ | 16·8 | 30·7 | 44·8 | 58·8 | 12·6 | 32 44·74 | + 0·09 | ......... | +20·98 | 19 33 5·81 |
| | χ Aquilæ | 23·5 | 37·1 | 50·7 | 4·3 | 17·8 | 34 50·68 | + 0·11 | ......... | +20·98 | 19 35 11·77 |
| | 10 Vulpeculæ | 22·0 | 36·6 | 51·4 | 6·1 | 20·8 | 36 51·38 | + 0·04 | ......... | +20·99 | 19 37 12·41 |
| | ζ Sagittæ | 12·3 | 26·4 | 40·3 | 54·5 | 8·4 | 41 40·38 | + 0·07 | ......... | +20·99 | 19 42 1·44 |
| | 12 Vulpeculæ | 30·0 | 44·2 | 58·6 | 13·0 | 27·5 | 43 58·66 | + 0·06 | ......... | +21·00 | 19 44 19·72 |
| | ξ Aquilæ | 51·3 | 4·9 | 18·2 | 31·5 | 45·1 | 46 18·20 | + 0·12 | ......... | +21·00 | 19 46 39·32 |
| | φ Aquilæ | 1·0 | 14·4 | 28·0 | 41·5 | 55·1 | 48 28·00 | + 0·12 | ......... | +21·00 | 19 48 49·12 |
| | 62 Aquilæ | 31·0 | 44·4 | 57·7 | 11·0 | 24·2 | 55 57·66 | + 0·17 | ......... | +21·01 | 19 56 18·84 |
| | 64 Aquilæ | 8·6 | 21·8 | 35·2 | 48·3 | 1·7 | 59 35·12 | + 0·17 | ......... | +21·01 | 19 59 56·30 |
| | 13 Vulpeculæ | 11·0 | 25·8 | 40·5 | 55·3 | 10·2 | 3 40·56 | + 0·03 | ......... | +21·01 | 20 4 1·60 |
| | ϱ Aquilæ | 13·2 | 27·0 | 40·7 | 54·5 | 8·2 | 6 40·72 | + 0·09 | ......... | +21·01 | 20 7 1·82 |
| | 22 Vulpeculæ | 54·3 | 9·0 | 23·5 | 38·0 | 52·4 | 8 23·44 | + 0·05 | ......... | +21·02 | 20 8 44·51 |
| | 39 Cygni | 44·5 | 0·2 | 15·8 | 31·4 | 47·1 | 17 15·80 | − 0·01 | ......... | +21·02 | 20 17 36·81 |
| | ε Delphini | 55·5 | 9·0 | 22·6 | 36·1 | 49·6 | 25 22·56 | + 0·12 | ......... | +21·02 | 20 25 43·70 |
| | ζ Delphini | 10·5 | 24·3 | 38·0 | 51·6 | 5·4 | 27 37·96 | + 0·10 | ......... | +21·03 | 20 27 59·09 |
| | 71 Aquilæ | 26·9 | 40·2 | 53·3 | 6·8 | 20·0 | 29 53·44 | + 0·17 | ......... | +21·03 | 20 30 14·64 |
| | α Delphini | 33·1 | 46·7 | 0·6 | 14·4 | 28·2 | 32 0·60 | + 0·09 | ......... | +21·03 | 20 32 21·72 |
| | 10 Delphini | 7·6 | 21·4 | 35·1 | 49·0 | 2·5 | 33 35·12 | + 0·10 | ......... | +21·04 | 20 33 56·26 |
| | δ Delphini | 20·2 | 34·0 | 47·6 | 1·3 | 15·1 | 35 47·64 | + 0·10 | ......... | +21·04 | 20 36 8·78 |
| | 3 Aquarii | 40·0 | 53·3 | 6·7 | 20·1 | 33·5 | 39 6·72 | + 0·20 | ......... | +21·04 | 20 39 27·96 |
| | μ Aquarii | 23·5 | 37·1 | 50·6 | 4·1 | 17·5 | 43 50·56 | + 0·21 | ......... | +21·05 | 20 44 11·82 |
| | A.S.C. 2476, follow. | 2·1 | 15·4 | 28·6 | 42·0 | 55·4 | 47 28·70 | + 0·15 | ......... | +21·05 | 20 47 49·90 |
| | 11 Aquarii | 30·7 | 44·0 | 57·3 | 10·7 | 24·0 | 51 57·34 | + 0·19 | ......... | +21·06 | 20 52 18·59 |
| | λ Equulei, following | 41·2 | 54·5 | 7·8 | 21·2 | 34·5 | 54 7·84 | + 0·14 | ......... | +21·06 | 20 54 29·04 |
| | ζ Equulei | 58·5 | 11·9 | 25·3 | 38·5 | 52·0 | 56 25·24 | + 0·14 | ......... | +21·07 | 20 56 46·45 |
| | ξ Cygni | 17·2 | 35·5 | 53·8 | 12·0 | 30·2 | 58 53·74 | − 0·10 | ......... | +21·07 | 20 59 14·71 |
| | 29 Capricorni | 15·1 | 28·8 | 42·8 | 56·7 | 10·3 | 6 42·74 | + 0·25 | ......... | +21·07 | 21 7 4·06 |
| | Moon 2 Limb | 35·2 | 49·3 | 3·2 | 17·2 | 31·1 | 21 3·20 | + 0·24 | ......... | +21·08 | 21 21 24·52 |
| | λ Capricorni | 17·0 | 30·7 | 44·3 | 58·0 | 11·5 | 37 44·30 | + 0·24 | ......... | +21·09 | 21 38 5·63 |
| | 30 Aquarii | 13·4 | 26·8 | 40·1 | 53·6 | 7·0 | 54 40·18 | + 0·21 | ......... | +21·12 | 21 55 1·51 |
| July 25 | 36 Draconis | 37·2 | 8·0 | 38·8 | 9·6 | 40·4 | 12 38·80 | − 0·41 | ......... | +23·90 | 18 13 2·29 |
| | α Lyræ | 40·8 | 57·8 | 14·9 | 31·9 | 48·9 | 31 14·86 | − 0·07 | +23·93 | +23·91 | 18 31 38·70 |
| | β Lyræ | 22·7 | 38·6 | 54·4 | ...... | 26·2 | 43 54·45 | − 0·04 | +23·90 | +23·92 | 18 44 18·33 |
| | $\delta^2$ Lyræ | 5·2 | 21·8 | 38·5 | 55·1 | 11·7 | 48 38·46 | − 0·07 | ......... | +23·92 | 18 49 2·31 |
| July 26 | Sun 1 Limb | ...... | 31·3 | 45·4 | 59·6 | 13·8 | 19 45·46 | 0·00 | ......... | +24·71 | 8 20 10·17 |
| | Sun 2 Limb | 31·5 | 45·7 | 59·8 | 13·8 | 27·9 | 21 59·74 | 0·00 | ......... | +24·71 | 8 22 24·45 |
| | α Ursæ Minoris S.P. | ...... | ...... | 31·5 | ...... | 4·0 | 2 31·44 | + 8·40 | ......... | +24·99 | 13 3 4·83 |
| | α Coronæ Borealis | 7·9 | 22·9 | 37·8 | 52·7 | 7·6 | 27 37·78 | − 0·04 | +25·13 | +25·14 | 15 28 2·88 |
| | α Ophiuchi | 47·2 | 0·6 | 14·2 | 27·9 | 41·6 | 27 14·30 | + 0·03 | +25·37 | +25·28 | 15 27 39·61 |
| | δ Ursæ Minoris | ...... | 18·0 | 0·5 | 43·5 | ...... | 23 0·56 | − 3·64 | ......... | +25·38 | 18 23 22·30 |
| | α Lyræ | 39·5 | 56·5 | 13·5 | 30·4 | 47·6 | 31 13·50 | − 0·10 | +25·31 | +25·39 | 18 31 38·79 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 27 | α Ursæ Minoris S.P. | ...... | 12·5 | 30·5 | 47·5 | 3·0 | 2 30·10 | + 9·04 | ......... | +26·41 | 13 3 5·55 |
| | α Bootis | 35·2 | 49·3 | 3·4 | 17·6 | 31·7 | 8 3·44 | + 0·02 | +26·52 | +26·47 | 14 8 29·93 |
| | α Coronæ Borealis | 6·5 | 21·5 | 36·4 | 51·3 | 6·2 | 27 36·38 | − 0·02 | +26·49 | +26·53 | 15 28 2·89 |
| | Groombridge 2427 | 31·6 | 24·8 | 17·8 | 10·5 | 3·7 | 6 17·68 | − 0·83 | ......... | +26·60 | 17 6 43·45 |
| | 40 Draconis | 55·0 | 11·6 | 28·0 | 44·4 | 0·8 | 11 27·96 | − 1·26 | ......... | +26·66 | 18 11 53·36 |
| | χ Draconis | 2·0 | 46·5 | 31·1 | 15·7 | 0·2 | 23 31·10 | − 0·66 | ......... | +26·67 | 18 23 57·11 |
| | α Lyræ | 38·1 | 55·1 | 12·1 | 29·2 | 46·2 | 31 12·14 | − 0·09 | +26·66 | +26·67 | 18 31 38·72 |
| | Saturn 1 Limb Ring | 53·1 | ...... | 22·2 | ...... | 51·2 | 40 22·17 | + 0·20 | ......... | +26·68 | 18 40 49·05 |
| | Saturn 2 Limb Ring | ...... | 10·9 | ...... | 39·6 | ...... | 40 25·25 | + 0·20 | ......... | +26·68 | 18 40 52·13 |
| | β Lyræ | 19·8 | 35·9 | 51·8 | 7·6 | 23·5 | 43 51·72 | − 0·06 | +26·64 | +26·68 | 18 44 18·34 |
| | 113 Herculis | 13·0 | 27·3 | 41·6 | 56·0 | 10·4 | 47 41·66 | + 0·01 | ......... | +26·69 | 18 48 8·36 |
| | Jupiter 1 Limb | ...... | 8·8 | ...... | 37·6 | ...... | 7 23·20 | + 0·20 | ......... | +26·70 | 19 7 50·10 |
| | Jupiter 2 Limb | 58·1 | ...... | 26·6 | ...... | 55·6 | 7 26·77 | + 0·20 | ......... | +26·70 | 19 7 53·67 |
| July 28 | Venus 1 Limb | 56·2 | 9·9 | 23·2 | 36·7 | 50·1 | 53 23·22 | + 0·04 | ......... | +27·61 | 10 53 50·87 |
| | α Ursæ Minoris S.P. | ...... | ...... | 29·0 | 48·5 | 4·0 | 2 30·45 | + 8·40 | ......... | +27·69 | 13 3 6·54 |
| | η Bootis | 16·3 | 30·4 | 44·5 | 58·6 | 12·7 | 46 44·50 | 0·00 | +27·73 | +27·72 | 13 47 12·22 |
| | η Ursæ Minoris | 56·0 | 51·3 | 46·5 | 42·0 | 37·5 | 21 46·66 | − 0·82 | ......... | +27·81 | 16 22 13·65 |
| | Groombridge 2427 | 30·0 | 23·5 | 16·5 | 9·5 | 2·5 | 6 16·40 | − 0·79 | ......... | +27·84 | 17 6 43·45 |
| | 40 Draconis | 54·0 | 9·8 | 26·6 | 43·3 | 59·5 | 11 26·64 | − 1·21 | ......... | +27·89 | 18 11 53·32 |
| | χ Draconis | 0·8 | 45·3 | 29·5 | 14·5 | 59·0 | 23 29·82 | − 0·63 | ......... | +27·90 | 18 23 57·09 |
| | α Lyræ | 36·8 | 53·8 | 10·9 | 27·9 | 44·9 | 31 10·86 | − 0·10 | +27·94 | +27·91 | 18 31 38·67 |
| | Jupiter 1 Limb | 23·4 | ...... | 52·6 | ...... | 21·2 | 6 52·40 | + 0·17 | ......... | +27·94 | 19 7 20·51 |
| | Jupiter 2 Limb | ...... | 41·6 | ...... | 10·4 | ...... | 6 56·00 | + 0·17 | ......... | +27·94 | 19 7 24·11 |
| | 1 Vulpeculæ | 32·9 | 47·1 | 1·3 | 15·6 | 29·8 | 9 1·34 | 0·00 | ......... | +27·95 | 19 9 29·29 |
| | δ Aquilæ | 41·4 | 54·7 | 8·0 | 21·2 | 34·5 | 17 7·96 | + 0·07 | +27·88 | +27·95 | 19 17 35·98 |
| | A.S.C. 2283 | 17·7 | 32·0 | 46·2 | 0·5 | 14·7 | 24 46·22 | 0·00 | ......... | +27·96 | 19 25 14·18 |
| | 9 Vulpeculæ | 46·2 | 0·4 | 14·4 | 28·6 | 42·7 | 27 14·46 | 0·00 | ......... | +27·96 | 19 27 42·42 |
| | 42 Aquilæ | 34·0 | 47·2 | 0·5 | 13·7 | 27·1 | 29 0·50 | + 0·10 | ......... | +27·97 | 19 29 28·57 |
| | σ Draconis | 59·8 | 37·6 | 15·2 | 53·2 | 30·6 | 32 15·28 | − 0·52 | ......... | +27·97 | 19 32 42·73 |
| | 10 Vulpeculæ | 15·2 | 29·8 | 44·6 | 59·4 | 14·0 | 36 44·60 | − 0·02 | ......... | +27·98 | 19 37 12·56 |
| | γ Aquilæ | 53·6 | 7·1 | 20·7 | 34·2 | 47·8 | 38 20·68 | + 0,04 | +28·06 | +27·99 | 19 38 48·71 |
| | ζ Sagittæ | 5·6 | 19·5 | 33·6 | 47·7 | 1·8 | 41 33·64 | 0·00 | ......... | +27·99 | 19 42 1·63 |
| | 12 Vulpeculæ | 23·1 | 37·3 | 51·7 | 6·1 | 20·4 | 43 51·72 | − 0·01 | ......... | +28·00 | 19 44 19·71 |
| | β Aquilæ | 42·4 | 55·7 | 9·1 | 22·4 | 35·8 | 47 9·08 | + 0·06 | +27·93 | +28·00 | 19 47 37·14 |
| | A.S.C. 2358 | 9·8 | 24·1 | 39·0 | 53·6 | 8·0 | 54 38·90 | − 0·02 | ......... | +28·01 | 19 55 6·89 |
| | 15 Sagittæ | 8·3 | 22·2 | 36·2 | 50·1 | 4·0 | 56 36·16 | + 0·02 | ......... | +28·01 | 19 57 4·19 |
| | 28 Cygni | 36·3 | 52·8 | 9·3 | 25·9 | 42·5 | 3 9·36 | − 0·08 | ......... | +28·02 | 20 3 37·30 |
| July 29 | Sun 1 Limb | 1·6 | 15·7 | 29·8 | 43·8 | 57·9 | 31 29·76 | + 0·08 | ......... | +28·63 | 8 31 58·47 |
| | Sun 2 Limb | 15·1 | 29·2 | 43·2 | 57·4 | 11·5 | 33 43·28 | + 0·08 | ......... | +28·63 | 8 34 11·99 |
| | Venus 1 Limb | 15·0 | 28·6 | 42·1 | 55·4 | 8·9 | 57 42·00 | + 0·12 | ......... | +28·74 | 10 58 10·86 |
| | α Ursæ Minoris S.P. | ...... | 12·5 | 28·5 | 45·0 | ...... | 2 28·91 | + 8·48 | ......... | +28·85 | 13 3 6·24 |
| | ε Bootis | 8·7 | 23·8 | 38·8 | 54·0 | 9·0 | 37 38·86 | + 0·03 | +28·96 | +28·90 | 14 38 7·79 |
| | α Serpentis | 36·7 | 50·0 | 3·4 | 16·8 | 30·1 | 36 3·40 | + 0·12 | +29·00 | +28·95 | 15 36 32·47 |
| | δ Ophiuchi | 12·0 | 25·3 | 38·6 | 52·0 | 5·2 | 5 38·62 | + 0·17 | +28·94 | +28·98 | 16 6 7·77 |
| | η Ursæ Minoris | 54·6 | 50·0 | 45·4 | 40·7 | 35·8 | 21 45·30 | − 0·75 | ......... | +28·99 | 16 22 13·54 |
| | ζ Draconis | 49·4 | 21·6 | 54·2 | 26·7 | 59·5 | 7 54·28 | − 0·35 | ......... | +29·02 | 17 8 22·95 |
| | α Ophiuchi | 43·1 | 56·8 | 10·6 | 24·2 | 37·9 | 27 10·52 | + 0·10 | +29·07 | +29·03 | 17 27 39·65 |
| | 36 Draconis | 32·2 | 3·0 | 33·4 | 4·2 | 34·8 | 12 33·52 | − 0·32 | ......... | +29·06 | 18 13 2·26 |
| | δ Ursæ Minoris | 27·0 | 10·5 | 55·0 | 37·5 | 21·5 | 22 54·30 | − 3·58 | ......... | +29·07 | 18 23 19·79 |
| | Saturn 1 Limb Ring | ...... | 33·4 | ...... | 2·3 | ...... | 39 47·85 | + 0·24 | ......... | +29·08 | 18 40 17·17 |
| | Saturn 2 Limb Ring | 22·2 | ...... | 50·7 | ...... | 19·5 | 39 50·80 | + 0·24 | ......... | +29·08 | 18 40 20·12 |
| | β Lyræ | 17·6 | 33·3 | 49·2 | 5·0 | 21·0 | 43 49·22 | + 0·01 | +29·06 | +29·09 | 18 44 18·32 |
| | $\delta^2$ Lyræ | 0·0 | 16·5 | 33·1 | 49·7 | 6·3 | 48 33·12 | − 0·02 | ......... | +29·09 | 18 49 2·19 |
| | Jupiter 1 Limb | ...... | 7·7 | ...... | 36·7 | ...... | 6 22·20 | + 0·25 | ......... | +29·10 | 19 6 51·55 |
| | Jupiter 2 Limb | 56·8 | ...... | 25·6 | ...... | 54·3 | 6 25·57 | + 0·25 | ......... | +29·10 | 19 6 54·92 |
| | 54 Draconis | 50·7 | 15·7 | 40·3 | 4·8 | 29·6 | 10 40·22 | − 0·20 | ......... | +29·11 | 19 11 9·13 |

| Date. | Object Observed. | Wire. I. | Wire. II. | Wire. III. | Wire. IV. | Wire. V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| July 29 | 31 Aquilæ | 33·6 | 47·2 | 0·7 | 14·5 | 27·9 | 17 0·78 | + 0·11 | ......... | +29·11 | 19 17 30·00 |
| | A.S.C. 2283 | 16·5 | 30·6 | 44·8 | 59·2 | 13·3 | 24 44·88 | + 0·06 | ......... | +29·12 | 19 25 14·06 |
| | 9 Vulpeculæ | 44·8 | 59·0 | 13·1 | 27·2 | 41·4 | 27 13·10 | + 0·07 | ......... | +29·12 | 19 27 42·29 |
| | 42 Aquilæ | 32·5 | 45·8 | 59·1 | 12·4 | 25·7 | 28 59·10 | + 0·17 | ......... | +29·12 | 19 29 28·39 |
| | β Sagittæ | 4·0 | 17·8 | 31·8 | 45·8 | 59·6 | 33 31·80 | + 0·08 | ......... | +29·13 | 19 34 1·01 |
| | A.S.C. 2315 | 32·5 | 47·1 | 2·0 | 17·0 | 31·8 | 37 2·08 | + 0·04 | ......... | +29·13 | 19 37 31·25 |
| | 54 Aquilæ | 35·2 | 48·5 | 2·0 | 15·6 | 29·1 | 43 2·08 | + 0·11 | ......... | +29·13 | 19 43 31·32 |
| | 56 Aquilæ | 41·8 | 55·2 | 8·6 | 22·1 | 35·5 | 45 8·64 | + 0·19 | ......... | +29·14 | 19 45 37·97 |
| | φ Aquilæ | 53·0 | 6·3 | 19·9 | 33·4 | 47·0 | 48 19·92 | + 0·11 | ......... | +29·14 | 19 48 49·17 |
| | 15 Sagittæ | 7·2 | 21·0 | 35·0 | 48·7 | 2·6 | 56 34·90 | + 0·09 | ......... | +29·15 | 19 57 4·14 |
| July 30 | | | | | Instrument Reversed. | | | | | | |
| | α Virginis | 57·7 | 11·2 | 24·6 | 38·3 | 51·8 | 16 24·72 | + 0·25 | +30·17 | +30·12 | 13 16 55·09 |
| | α Coronæ Borealis | 2·7 | 17·6 | 32·4 | 47·4 | 2·4 | 27 32·50 | + 0·03 | +30·28 | +30·26 | 15 28 2·79 |
| | α Serpentis | 35·3 | 48·6 | 2·1 | 15·6 | 29·0 | 36 2·12 | + 0·15 | +30·24 | +30·27 | 15 36 32·54 |
| | ζ Draconis | 48·3 | 20·6 | 53·1 | 25·7 | 58·2 | 7 53·18 | − 0·51 | ......... | +30·42 | 17 8 23·09 |
| | α Ophiuchi | 41·9 | 55·4 | 9·0 | 22·7 | 36·3 | 27 9·06 | + 0·12 | +30·50 | +30·45 | 17 27 39·63 |
| | δ Ursæ Minoris | 26·0 | 10·0 | 53·5 | ...... | 21·5 | 22 53·87 | − 5·12 | ......... | +30·52 | 18 23 19·27 |
| | Saturn 1 Limb Ring | 2·2 | ...... | 31·0 | ...... | 59·8 | 39 31·00 | + 0·31 | ......... | +30·54 | 18 40 1·85 |
| | Saturn 2 Limb Ring | ...... | 19·3 | ...... | 48·3 | ...... | 39 33·80 | + 0·31 | ......... | +30·54 | 18 40 4·65 |
| | β Lyræ | 16·0 | 31·9 | 47·8 | 3·8 | 19·6 | 43 47·82 | 0·00 | +30·47 | +30·55 | 18 44 18·37 |
| | Jupiter 1 Limb | 23·2 | ...... | 52·1 | ...... | 20·9 | 5 52·07 | + 0·31 | ......... | +30·58 | 19 6 22·96 |
| | Jupiter 2 Limb | ...... | 41·1 | ...... | 9·8 | ...... | 5 55·45 | + 0·31 | ......... | +30·58 | 19 6 26·34 |
| | 1 Vulpeculæ | 30·2 | 44·2 | 58·5 | 12·8 | 27·0 | 8 58·54 | + 0·08 | ......... | +30·59 | 19 9 29·21 |
| | δ Draconis | 54·2 | 28·7 | 3·1 | 38·5 | 12·5 | 12 3·40 | − 0·56 | ......... | +30·59 | 19 12 33·43 |
| | 31 Aquilæ | 32·2 | 46·0 | 59·4 | 12·9 | 26·5 | 16 59·40 | + 0·13 | ......... | +30·60 | 19 17 30·13 |
| | A.S.C. 2283 | 15·2 | 29·5 | 43·8 | 57·9 | 12·1 | 24 43·70 | + 0·08 | ......... | +30·61 | 19 25 14·39 |
| | 9 Vulpeculæ | 43·3 | 57·5 | 11·8 | 25·8 | 39·9 | 27 11·66 | + 0·09 | ......... | +30·61 | 19 27 42·36 |
| | β Sagittæ | 2·5 | 16·3 | 30·1 | 44·2 | 58·0 | 33 30·22 | + 0·09 | ......... | +30·62 | 19 34 0·93 |
| | A.S.C. 2315 | 31·1 | 46·0 | 0·6 | 15·5 | 30·3 | 37 0·70 | + 0·03 | ......... | +30·62 | 19 37 31·35 |
| | 54 Aquilæ | 33·7 | 47·1 | 0·8 | 14·1 | 27·6 | 43 0·66 | + 0·14 | ......... | +30·63 | 19 43 31·43 |
| | ξ Aquilæ | 42·0 | 55·3 | 8·7 | 22·1 | 35·4 | 46 8·70 | + 0·14 | ......... | +30·63 | 19 46 39·47 |
| | 10 Sagittæ | 56·2 | 10·0 | 23·9 | 37·6 | 51·4 | 48 23·82 | + 0·11 | ......... | +30·64 | 19 48 54·57 |
| | τ Aquilæ | 31·6 | 45·0 | 58·2 | 12·0 | 25·4 | 55 58·44 | + 0·15 | ......... | +30·65 | 19 56 29·24 |
| | η Sagittæ | 14·0 | 28·2 | 42·2 | 56·3 | 10·3 | 57 42·20 | + 0·08 | ......... | +30·65 | 19 58 12·93 |
| July 31 | Moon 2 Limb | 2·2 | 17·1 | 32·2 | 47·1 | 1·9 | 41 32·10 | + 0·02 | ......... | +32·66 | 3 42 4·78 |
| | α Tauri | 53·7 | 7·5 | 21·3 | 35·2 | 49·0 | 26 21·34 | + 0·07 | +32·74 | +32·71 | 4 26 54·12 |
| | α Aurigæ | 53·7 | 12·8 | 31·9 | 51·0 | 10·0 | 4 31·88 | − 0·15 | ......... | +32·74 | 5 5 4·47 |
| | β Orionis | 58·9 | 12·3 | 25·6 | 39·2 | 52·6 | 6 25·72 | + 0·19 | +32·76 | +32·74 | 5 6 58·65 |
| | β Tauri | ...... | 33·1 | 48·2 | 3·4 | 18·6 | 15 48·27 | 0·00 | +32·71 | +32·75 | 5 16 21·02 |
| Aug. 1 | Sun 1 Limb | 40·0 | 54·0 | 8·1 | ...... | 36·1 | 43 8·06 | + 0·03 | ......... | +32·94 | 8 43 41·03 |
| | Sun 2 Limb | 52·9 | 7·0 | 21·1 | 35·1 | 49·2 | 45 21·06 | + 0·03 | ......... | +32·94 | 8 45 54·03 |
| | α Coronæ Borealis | 59·5 | 14·4 | 29·5 | 44·4 | 59·4 | 27 29·44 | − 0·03 | +33·37 | +33·35 | 15 28 2·76 |
| | α Serpentis | 32·3 | 45·7 | 59·1 | 12·5 | 25·9 | 35 59·10 | + 0·08 | +33·30 | +33·36 | 15 36 32·54 |
| | δ Ophiuchi | 7·7 | 20·9 | 34·2 | 47·4 | 0·7 | 5 34·18 | + 0·14 | +33·38 | +33·38 | 16 6 7·70 |
| | ζ Draconis | 45·2 | 17·6 | 50·1 | 23·0 | 55·4 | 7 50·26 | − 0·56 | ......... | +33·42 | 17 8 23·12 |
| | α Ophiuchi | 39·0 | 52·5 | 6·1 | 19·9 | 33·3 | 27 6·16 | + 0·06 | +33·44 | +33·44 | 17 27 39·66 |
| | δ Ursæ Minoris | 23·0 | 6·0 | 50·0 | 34·0 | 18·5 | 22 50·30 | − 5·03 | ......... | +33·47 | 18 23 18·74 |
| | Saturn 1 Limb Ring | 28·2 | ...... | 57·0 | ...... | 25·9 | 38 57·03 | + 0·24 | ......... | +33·48 | 18 39 30·75 |
| | Saturn 2 Limb Ring | ...... | 46·2 | ...... | 14·6 | ...... | 39 0·40 | + 0·24 | ......... | +33·48 | 18 39 34·12 |
| | β Lyræ | 13·1 | 28·9 | 44·9 | 0·8 | 16·6 | 43 44·86 | − 0·07 | +33·48 | +33·49 | 18 44 18·28 |
| | ο Draconis | 29·9 | 55·9 | 22·0 | 47·8 | 13·8 | 48 21·88 | − 0·38 | ......... | +33·49 | 18 48 54·99 |
| | Jupiter 1 Limb | ...... | 38·5 | ...... | 7·2 | ...... | 4 52·85 | + 0·24 | ......... | +33·50 | 19 5 26·59 |
| | Jupiter 2 Limb | 27·7 | ...... | 56·5 | ...... | 25·4 | 4 56·53 | + 0·24 | ......... | +33·50 | 19 5 30·27 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 1 | 1 Vulpeculæ ········· | 26·9 | 41·2 | 55·5 | 9·9 | 24·1 | 8 55·52 | + 0·01 | ········· | +33·50 | 19 9 29·03 |
| | δ Draconis ············· | 51·3 | 26·0 | 0·5 | 35·0 | 9·5 | 12 0·46 | + 0·61 | ········· | +33·50 | 19 12 33·35 |
| | 3 Cygni ··············· | 54·4 | 9·0 | 23·6 | 38·2 | 53·0 | 18 23·64 | − 0·01 | ········· | +33·51 | 19 18 57·14 |
| | 37 Aquilæ ············· | 28·0 | 41·9 | 55·4 | 8·9 | 22·3 | 25 55·30 | + 0·18 | ········· | +33·51 | 19 26 28·99 |
| | ϰ Aquilæ ··············· | 27·1 | 40·3 | 53·8 | 7·4 | 20·8 | 27 53·88 | + 0·16 | ········· | +33·51 | 19 28 27·55 |
| | β Sagittæ··············· | 59·4 | 13·2 | 27·0 | 41·0 | 55·1 | 33 27·14 | + 0·13 | ········· | +33·52 | 19 34 0·79 |
| | A.S.C. 2315 ·········· | 27·8 | 42·8 | 57·6 | 12·6 | 27·4 | 36 57·64 | − 0·03 | ········· | +33·52 | 19 37 31·13 |
| | η Aquilæ ··············· | 29·2 | 42·4 | 55·6 | 9·0 | 22·2 | 43 55·68 | + 0·12 | ········· | +33·52 | 19 44 29·32 |
| | 58 Aquilæ ············· | 43·0 | 56·2 | 9·5 | 22·8 | 36·2 | 46 9·54 | + 0·12 | ········· | +33·53 | 19 46 43·19 |
| | 10 Sagittæ············ | 53·1 | 7·0 | 20·9 | 34·8 | 48·5 | 48 20·86 | + 0·04 | ········· | +33·53 | 19 48 54·43 |
| | A.S.C. 2358 ·········· | 4·1 | 18·8 | 33·1 | 47·8 | 2·2 | 54 33·20 | − 0·01 | ········· | +33·53 | 19 55 6·72 |
| | 15 Sagittæ············ | 2·9 | 16·9 | 30·6 | 44·5 | 58·3 | 56 30·64 | + 0·03 | ········· | +33·53 | 19 57 4·20 |
| | 28 Cygni··············· | 30·7 | 47·1 | 3·7 | 20·1 | 36·6 | 3 3·64 | − 0·09 | ········· | +33·54 | 20 3 37·09 |
| | α Tauri················· | 52·4 | 6·2 | 20·1 | 34·0 | 47·7 | 26 20·08 | + 0·04 | +34·06 | +34·06 | 4 26 54·18 |
| Aug. 2 | Sun 1 Limb·········· | 31·7 | 45·6 | 59·7 | 13·7 | 27·7 | 46 59·68 | + 0·04 | ········· | +34·22 | 8 47 33·94 |
| | Sun 2 Limb·········· | 44·6 | 58·5 | 12·5 | 26·6 | 40·6 | 49 12·56 | + 0·04 | ········· | +34·22 | 8 49 46·82 |
| | Venus 1 Limb········ | 20·9 | 34·2 | 47·6 | 1·0 | 14·4 | 14 47·62 | + 0·10 | ········· | +34·35 | 11 15 22·07 |
| | α Ursæ Minoris S.P. | ······ | ······ | 24·5 | 41·5 | 58·0 | 2 23·83 | +11·92 | ········· | +34·52 | 13 3 10·27 |
| | α Bootis················ | 27·1 | 41·1 | 55·2 | 9·4 | 23·5 | 7 55·26 | + 0·02 | +34·62 | +34·56 | 14 8 29·84 |
| | ε Bootis················· | 3·1 | 18·0 | 33·2 | 48·2 | 3·3 | 37 33·16 | − 0·03 | +34·65 | +34·60 | 14 38 7·73 |
| | α Coronæ Borealis··· | 58·4 | 13·2 | 28·2 | 43·1 | 58·1 | 27 28·20 | − 0·02 | +34·58 | +34·67 | 15 28 2·85 |
| | α Serpentis ··········· | 31·1 | 44·5 | 57·8 | 11·2 | 24·4 | 35 57·80 | + 0·10 | +34·57 | +34·69 | 15 36 32·59 |
| | δ Ursæ Minoris ······· | ······ | 4·5 | 48·0 | 33·0 | 16·0 | 22 48·60 | − 5·12 | ········· | +34·94 | 18 23 18·42 |
| | Saturn 1 Limb Ring | ······ | 26·4 | ······ | 55·3 | ······ | 38 40·85 | + 0·25 | ········· | +34·95 | 18 39 16·05 |
| | Saturn 2 Limb Ring | 15·2 | ······ | 44·1 | ······ | 12·7 | 38 44·00 | + 0·25 | ········· | +34·95 | 18 39 19·20 |
| | β Lyræ··················· | 11·6 | 27·5 | 43·3 | 59·3 | 15·1 | 43 43·36 | − 0·07 | +34·98 | +34·96 | 18 44 18·25 |
| | ο Draconis·············· | 28·6 | 54·4 | 20·5 | 46·4 | 12·4 | 48 20·46 | − 0·38 | ········· | +34·96 | 18 48 55·04 |
| | Jupiter 1 Limb······· | 55·4 | ······ | 24·2 | ······ | 53·0 | 4 24·20 | + 0·25 | ········· | +34·98 | 19 4 59·43 |
| | Jupiter 2 Limb······· | ······ | 13·3 | ······ | 42·2 | ······ | 4 27·75 | + 0·25 | ········· | +34·98 | 19 5 2·98 |
| | η Lyræ··················· | 17·6 | 34·6 | 51·6 | 8·8 | 25·9 | 7 51·70 | − 0·12 | ········· | +34·98 | 19 8 26·56 |
| | 54 Draconis ·········· | 44·8 | 9·6 | 34·4 | 59·2 | 23·9 | 10 34·38 | − 0·35 | ········· | +34·99 | 19 11 9·02 |
| | 59 Draconis ·········· | 31·0 | 27·2 | 23·2 | 20·0 | 15·5 | 14 23·38 | − 1·14 | ········· | +34·99 | 19 14 57·23 |
| | 3 Cygni ················ | 53·1 | 7·7 | 22·5 | 37·1 | 51·5 | 18 22·38 | 0·00 | ········· | +34·99 | 19 18 57·37 |
| | μ Aquilæ ·············· | 24·3 | 37·8 | 51·1 | 4·4 | 17·8 | 25 51·08 | + 0·09 | ········· | +34·99 | 19 26 26·16 |
| | ι Aquilæ ··············· | 35·3 | 48·6 | 1·9 | 15·2 | 28·5 | 28 1·90 | + 0·14 | ········· | +35·00 | 19 28 37·04 |
| | φ Cygni ················ | 6·2 | 21·6 | 36·8 | 52·2 | 7·5 | 32 36·86 | − 0·04 | ········· | +35·00 | 19 33 11·82 |
| | 15 Cygni ··············· | 30·2 | 46·8 | 3·3 | 20·0 | 36·6 | 38 3·38 | − 0·09 | ········· | +35·01 | 19 38 38·30 |
| | η Aquilæ··············· | 27·7 | 41·1 | 54·4 | 7·8 | 21·0 | 43 54·40 | + 0·13 | ········· | +35·01 | 19 44 29·54 |
| | 58 Aquilæ ············· | 41·4 | 54·8 | 8·2 | 21·6 | 34·8 | 46 8·16 | + 0·13 | ········· | +35·02 | 19 46 43·31 |
| | A.S.C. 2358·········· | 2·6 | 17·2 | 31·8 | 46·6 | 1·2 | 54 31·88 | 0·00 | ········· | +35·02 | 19 55 6·90 |
| | η Sagittæ ·············· | 9·9 | 23·9 | 37·9 | 52·0 | 6·1 | 57 37·96 | + 0·02 | ········· | +35·03 | 19 58 13·01 |
| | α Aurigæ ·············· | 51·1 | 10·1 | 29·2 | 48·3 | 7·2 | 4 29·18 | − 0·19 | ········· | +35·52 | 5 5 4·51 |
| | β Orionis··············· | 56·2 | 9·5 | 23·0 | 36·4 | 49·9 | 6 23·00 | + 0·17 | +35·55 | +35·53 | 5 6 58·70 |
| | β Tauri·················· | 15·4 | 30·4 | 45·6 | 0·7 | 15·7 | 15 45·56 | − 0·03 | +35·51 | +35·53 | 5 16 21·06 |
| | Moon 2 Limb········· | 49·0 | 4·1 | 19·3 | 34·3 | 49·6 | 45 19·26 | − 0·01 | ········· | +35·55 | 5 45 54·80 |
| | Mercury 2 Limb······ | 29·2 | 43·2 | 57·5 | 12·2 | 26·2 | 34 57·66 | + 0·02 | ········· | +35·60 | 7 35 33·28 |
| Aug. 3 | ζ Draconis ············· | 42·2 | 14·6 | 47·3 | 20·0 | 52·4 | 7 47·30 | − 0·61 | ········· | +36·10 | 17 8 22·79 |
| | α Ophiuchi············· | 36·3 | 49·8 | 3·4 | 17·1 | 30·6 | 27 3·44 | + 0·14 | +36·06 | +36·13 | 17 27 39·71 |
| | δ Ursæ Minoris······· | 19·5 | 3·0 | 46·5 | 30·5 | ······ | 22 46·85 | − 6·06 | ········· | +36·23 | 18 23 17·02 |
| | α Lyræ ················· | 28·2 | 45·2 | 2·3 | 19·5 | 36·5 | 31 2·34 | − 0·07 | +36·38 | +36·24 | 18 31 38·51 |
| | Saturn 1 Limb Ring | 56·1 | ······ | 24·8 | ······ | 53·6 | 38 24·83 | + 0·36 | ········· | +36·26 | 18 39 1·45 |
| | Saturn 2 Limb Ring | ······ | 13·5 | ······ | 42·3 | ······ | 38 27·90 | + 0·36 | ········· | +36·26 | 18 39 4·52 |
| | β Lyræ ················· | 10·3 | 26·2 | 42·0 | 58·0 | 13·8 | 43 42·06 | − 0·02 | +36·22 | +36·28 | 18 44 18·32 |
| | ο Draconis·············· | 27·2 | 53·0 | 19·0 | 45·3 | 11·1 | 48 19·12 | − 0·39 | ········· | +36·29 | 18 48 55·02 |
| | Jupiter 1 Limb······· | ······ | 41·8 | ······ | 10·6 | ······ | 3 56·20 | + 0·36 | ········· | +36·32 | 19 4 32·88 |
| | Jupiter 2 Limb······· | 30·6 | ······ | 59·5 | ······ | 28·4 | 3 59·50 | + 0·36 | ········· | +36·32 | 19 4 36·18 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 3 | 53 Draconis | 20·2 | 44·2 | 8·3 | 32·3 | 56·4 | 8 8·28 | − 0·34 | ……… | +36·33 | 19 8 44·27 |
| | 59 Draconis | 30·0 | 25·4 | 21·8 | 18·3 | 14·2 | 14 21·94 | − 1·30 | ……… | +36·33 | 19 14 56·97 |
| | 3 Cygni | 51·7 | 6·4 | 21·0 | 35·6 | 50·2 | 18 20·98 | + 0·06 | ……… | +36·34 | 19 18 57·38 |
| | μ Aquilæ | 23·1 | 36·4 | 49·9 | 3·2 | 16·5 | 25 49·82 | + 0·17 | ……… | +36·35 | 19 26 26·34 |
| | ι Aquilæ | 34·0 | 47·2 | 0·4 | 13·8 | 26·9 | 28 0·46 | + 0·23 | ……… | +36·35 | 19 28 37·04 |
| | σ Draconis | 51·2 | 29·1 | 7·0 | 44·6 | 22·3 | 32 6·84 | − 0·78 | ……… | +36·36 | 19 32 42·42 |
| | 15 Cygni | 28·8 | 45·5 | 2·2 | 18·8 | 35·4 | 38 2·14 | − 0·05 | ……… | +36·37 | 19 38 38·46 |
| | η Aquilæ | 26·7 | 39·9 | 53·2 | 6·4 | 19·6 | 43 53·16 | + 0·22 | ……… | +36·38 | 19 44 29·76 |
| | 13 Vulpeculæ | 43·1 | 57·8 | 12·2 | 26·7 | 41·1 | 46 12·18 | + 0·06 | ……… | +36·39 | 19 46 48·63 |
| | 16 Vulpeculæ | 17·5 | 32·1 | 46·5 | 1·3 | 16·0 | 54 46·68 | + 0·06 | ……… | +36·40 | 19 55 23·14 |
| | η Sagittæ | 8·3 | 22·3 | 36·5 | 50·6 | 4·8 | 57 36·50 | + 0·09 | ……… | +36·41 | 19 58 13·00 |
| Aug. 4 | Venus 1 Limb | 49·0 | 2·3 | 15·7 | 29·2 | 42·4 | 23 15·72 | + 0·10 | ……… | +37·37 | 11 23 53·19 |
| | α Ursæ Minoris S.P. | 50·0 | 7·0 | 24·0 | 42·0 | 57·5 | 2 24·10 | +10·36 | ……… | +37·41 | 13 3 11·87 |
| | α Virginis | 50·6 | 3·9 | 17·5 | 31·0 | 44·5 | 16 17·50 | + 0·17 | +37·41 | +37·43 | 13 16 55·10 |
| | α Herculis | 25·1 | 38·7 | 52·5 | 6·3 | 20·0 | 6 52·52 | + 0·06 | +37·52 | +37·52 | 17 7 30·10 |
| | δ Ursæ Minoris | …… | 1·5 | 44·0 | 28·5 | …… | 22 44·77 | − 4·43 | ……… | +37·58 | 18 23 17·92 |
| | α Lyræ | 27·2 | 44·1 | 1·2 | 18·2 | 35·1 | 31 1·16 | − 0·09 | +37·57 | +37·59 | 18 31 38·66 |
| | ζ Aquilæ | 7·7 | 21·2 | 34·9 | 48·5 | 2·2 | 57 34·90 | + 0·06 | +37·73 | +37·61 | 18 58 12·57 |
| | 53 Draconis | 18·4 | 42·6 | 6·8 | 31·0 | 55·1 | 8 6·78 | − 0·28 | ……… | +37·62 | 19 8 44·12 |
| | δ Aquilæ | 31·5 | 44·9 | 58·2 | 11·4 | 24·7 | 16 58·14 | + 0·11 | +37·67 | +37·63 | 19 17 35·88 |
| | 15 Cygni | 27·6 | 44·1 | 0·7 | 17·3 | 33·8 | 38 0·70 | − 0·06 | ……… | +37·65 | 19 38 38·29 |
| | 16 Vulpeculæ | 16·2 | 30·9 | 45·4 | 0·0 | 14·5 | 54 45·40 | + 0·01 | ……… | +37·67 | 19 55 23·08 |
| Aug. 5 | Sun 2 Limb | 15·7 | 29·5 | 43·4 | 57·3 | 11·2 | 0 43·42 | 0·00 | ……… | +38·24 | 9 1 21·66 |
| | Venus 1 Limb | 2·0 | 15·4 | 28·8 | 42·1 | 55·6 | 27 28·78 | − 0·03 | ……… | +38·40 | 11 28 7·15 |
| | ε Bootis | 59·2 | 14·0 | 29·1 | 44·2 | 59·2 | 37 29·14 | − 0·06 | +38·65 | +38·68 | 14 38 7·76 |
| | α Coronæ Borealis | 54·1 | 9·0 | 24·0 | 38·9 | 53·8 | 27 23·96 | − 0·06 | +38·81 | +38·86 | 15 28 2·76 |
| | α Serpentis | 26·7 | 40·1 | 53·5 | 7·0 | 20·4 | 35 53·54 | + 0·05 | +38·84 | +38·88 | 15 36 32·47 |
| | δ Ursæ Minoris | 15·0 | 58·5 | 43·0 | 28·0 | …… | 22 43·11 | − 4·84 | ……… | +39·28 | 18 23 17·55† |
| | β Lyræ | 7·3 | 23·0 | 39·0 | 54·8 | 10·8 | 43 38·98 | − 0·10 | +39·36 | +39·32 | 18 44 18·20† |
| | ζ Aquilæ | 6·1 | 19·6 | 33·4 | 47·1 | 0·6 | 57 33·36 | + 0·01 | +39·31 | +39·34 | 18 58 12·71† |
| | γ Aquilæ | 42·4 | 56·0 | 9·4 | 23·0 | 36·5 | 38 9·46 | + 0·03 | +39·31 | +39·38 | 19 38 48·87† |
| | α Aquilæ | 2·1 | 15·5 | 29·0 | 42·5 | 56·0 | 42 29·02 | + 0·04 | +39·40 | +39·40 | 19 43 8·46† |
| Aug. 6 | Sun 1 Limb | 52·3 | 6·0 | 20·0 | 34·0 | 47·9 | 2 20·04 | + 0·13 | ……… | +39·93 | 9 3 0·10† |
| | Sun 2 Limb | 4·5 | 18·4 | 32·3 | 46·3 | 0·2 | 4 32·34 | + 0·13 | ……… | +39·93 | 9 5 12·40† |
| | α Ophiuchi | 31·7 | 45·3 | 59·1 | 12·7 | 26·4 | 26 59·04 | + 0·15 | +40·43 | +40·54 | 17 27 39·73† |
| | δ Ursæ Minoris | 14·5 | 58·5 | …… | 26·0 | …… | 22 42·13 | − 5·46 | ……… | +40·60 | 18 23 17·27† |
| | α Lyræ | 24·1 | 41·0 | 58·2 | 15·1 | 32·2 | 30 58·12 | − 0·05 | +40·55 | +40·60 | 18 31 38·67† |
| | γ Aquilæ | 41·0 | 54·4 | 8·0 | 21·5 | 35·0 | 38 7·98 | + 0·17 | +40·65 | +40·71 | 19 38 48·86† |
| | α Aquilæ | 0·6 | 14·1 | 27·5 | 41·0 | 54·4 | 42 27·52 | + 0·17 | +40·77 | +40·72 | 19 43 8·41† |
| Aug. 9 | Sun 1 Limb | 16·7 | 30·7 | 44·5 | 58·4 | 12·2 | 13 44·50 | + 0·09 | ……… | +44·19 | 9 14 28·78 |
| | Sun 2 Limb | 28·4 | 42·3 | 56·2 | 10·1 | 24·0 | 15 56·20 | + 0·09 | ……… | +44·19 | 9 16 40·48 |
| | ζ Draconis | 33·4 | 6·0 | 38·5 | 11·2 | 43·6 | 7 38·54 | − 0·50 | ……… | +44·67 | 17 8 22·71 |
| | δ Ursæ Minoris | 9·5 | 53·0 | 36·0 | 20·0 | …… | 22 36·61 | − 4·95 | ……… | +44·74 | 18 23 16·40 |
| | α Lyræ | 20·1 | 37·0 | 54·0 | 11·0 | 27·9 | 30 54·00 | − 0·07 | +44·66 | +44·75 | 18 31 38·68 |
| | ζ Aquilæ | 0·2 | 14·0 | 27·8 | 41·6 | 55·1 | 57 27·74 | + 0·10 | +44·83 | +44·78 | 18 58 12·62 |
| | 53 Draconis | 11·2 | 35·4 | 59·6 | 23·6 | 47·8 | 7 59·52 | − 0·29 | ……… | +44·79 | 19 8 44·02 |
| | δ Draconis | 39·5 | 14·2 | 49·0 | 23·5 | 58·2 | 11 48·88 | − 0·55 | ……… | +44·79 | 19 12 33·12 |
| | δ Aquilæ | 24·4 | 37·7 | 51·0 | 4·4 | 17·6 | 16 51·02 | + 0·16 | +44·74 | +44·80 | 19 17 35·98 |
| | ι Cygni | 19·3 | 40·4 | 1·7 | 23·0 | 44·3 | 25 1·74 | − 0·20 | ……… | +44·81 | 19 25 46·35 |
| | γ Aquilæ | 36·8 | 50·2 | 3·8 | 17·3 | 30·8 | 38 3·78 | + 0·12 | +44·90 | +44·82 | 19 38 48·72 |
| | β Aquilæ | 25·4 | 38·7 | 52·2 | 5·5 | 18·8 | 46 52·12 | + 0·15 | +44·83 | +44·83 | 19 47 37·10 |
| | 16 Vulpeculæ | 9·0 | 23·3 | 37·9 | 52·5 | 7·2 | 54 37·98 | + 0·04 | ……… | +44·84 | 19 55 22·86 |
| Aug. 11 | Venus 1 Limb | 6·3 | 19·7 | 33·0 | 46·3 | 59·7 | 52 33·00 | + 0·23 | ……… | +47·31 | 11 53 20·54 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 11 | α Ursæ Minoris S.P. | ...... | ...... | ...... | 35·5 | 52·5 | 2 18·05 | +11·32 | ......... | +47·39 | 13 3 16·76 |
| | α Virginis | 40·4 | 53·8 | 7·4 | 20·8 | 34·3 | 16 7·34 | + 0·27 | +47·41 | +47·40 | 13 16 55·01 |
| | Moon 1 Limb | 19·8 | 33·9 | 48·1 | 2·6 | 16·8 | 37 48·24 | + 0·31 | ......... | +47·42 | 13 38 35·97 |
| | η Bootis | 56·3 | 10·4 | 24·4 | 38·6 | 52·6 | 46 24·46 | + 0·13 | +47·45 | +47·43 | 13 47 12·02 |
| | α Bootis | 14·0 | 28·2 | 42·2 | 56·4 | 10·5 | 7 42·26 | + 0·13 | +47·38 | +47·45 | 14 8 29·84 |
| | α Ophiuchi | 24·5 | 38·1 | 51·7 | 5·4 | 19·0 | 26 51·74 | + 0·16 | +47·67 | +47·65 | 17 27 39·55 |
| | Saturn 1 Limb Ring | ...... | 12·2 | ...... | 41·0 | ...... | 36 26·60 | + 0·34 | ......... | +47·72 | 18 37 14·66 |
| | Saturn 2 Limb Ring | 0·6 | ...... | 29·4 | ...... | 58·2 | 36 29·40 | + 0·34 | ......... | +47·72 | 18 37 17·46 |
| | 5 Lyræ, preceding | 49·7 | 7·0 | 24·2 | 41·4 | 58·6 | 38 24·18 | − 0·01 | ......... | +47·72 | 18 39 11·89 |
| Aug. 13 | Moon 1 Limb | 59·6 | 14·6 | 29·6 | 44·5 | 59·7 | 33 29·60 | + 0·22 | ......... | +50·69 | 15 34 20·51 |
| | α Herculis | 11·6 | 25·3 | 39·1 | 52·7 | 6·5 | 6 39·04 | + 0·03 | +50·92 | +50·93 | 17 7 30·00 |
| | α Ophiuchi | 21·4 | 34·8 | 48·4 | 2·2 | 15·8 | 26 48·52 | + 0·04 | +50·98 | +50·96 | 17 27 39·52 |
| | δ Ursæ Minoris | 2·0 | 45·0 | 28·5 | 13·0 | 56·5 | 22 29·00 | − 4·64 | ......... | +51·12 | 18 23 15·48 |
| | Saturn 1 Limb Ring | 30·8 | ...... | 59·5 | ...... | 28·3 | 35 59·53 | + 0·22 | ......... | +51·14 | 18 36 50·89 |
| | Saturn 2 Limb Ring | ...... | 48·2 | ...... | 16·7 | ...... | 36 2·45 | + 0·22 | ......... | +51·14 | 18 36 53·81 |
| | 5 Lyræ, preceding | 46·4 | 3·5 | 20·8 | 38·0 | 55·1 | 38 20·76 | − 0·13 | ......... | +51·15 | 18 39 11·78 |
| | β Lyræ | 55·4 | 11·1 | 27·1 | 43·0 | 58·9 | 43 27·10 | − 0·07 | +51·13 | +51·16 | 18 44 18·19 |
| | ζ Aquilæ | 54·2 | 7·9 | 21·4 | 35·1 | 48·8 | 57 21·48 | + 0·04 | +51·12 | +51·17 | 18 58 12·69 |
| | Jupiter 1 Limb | ...... | 29·9 | ...... | 58·9 | ...... | 59 44·40 | + 0·22 | ......... | +51·18 | 19 0 35·80 |
| | Jupiter 2 Limb | 18·8 | ...... | 47·7 | ...... | 16·5 | 59 47·67 | + 0·22 | ......... | +51·18 | 19 0 39·07 |
| | 59 Draconis | 14·2 | 10·2 | 6·5 | 2·7 | 58·5 | 14 6·42 | − 1·04 | ......... | +51·19 | 19 14 56·57 |
| | ι Cygni | 12·8 | 34·1 | 55·4 | 16·8 | 38·0 | 24 55·42 | − 0·24 | ......... | +51·20 | 19 25 46·38 |
| | ι Aquilæ | 19·0 | 32·3 | 45·6 | 59·0 | 12·2 | 27 45·62 | + 0·11 | ......... | +51·20 | 19 28 36·93 |
| | σ Draconis | 36·2 | 14·1 | 52·0 | 29·5 | 7·2 | 31 51·80 | − 0·64 | ......... | +51·21 | 19 32 42·37 |
| | γ Aquilæ | 30·5 | 44·1 | 57·6 | 11·0 | 24·5 | 37 57·54 | + 0·05 | +51·20 | +51·22 | 19 38 48·81 |
| | α Aquilæ | 50·3 | 3·5 | 17·1 | 30·5 | 44·0 | 42 17·08 | + 0·07 | +51·32 | +51·22 | 19 43 8·37 |
| | 56 Aquilæ | 20·0 | 33·3 | 46·7 | 0·2 | 13·5 | 44 46·74 | + 0·15 | ......... | +51·22 | 19 45 38·11 |
| | 14 Sagittæ | 1·1 | 15·1 | 29·0 | 42·9 | 56·5 | 55 28·92 | + 0·03 | ......... | +51·23 | 19 56 20·18 |
| | 28 Cygni | 13·1 | 29·5 | 46·1 | 2·5 | 19·1 | 2 46·06 | − 0·10 | ......... | +51·24 | 20 3 37·20 |
| | 20 Vulpeculæ | 6·4 | 21·0 | 35·7 | 50·5 | 5·4 | 4 35·80 | − 0·02 | ......... | +51·24 | 20 5 27·02 |
| | 21 Vulpeculæ | 27·4 | 42·5 | 57·7 | 12·8 | 27·9 | 6 57·66 | − 0·04 | ......... | +51·25 | 20 7 48·87 |
| | ε Delphini | 25·3 | 39·0 | 52·3 | 6·0 | 19·5 | 24 52·42 | + 0·05 | ......... | +51·28 | 20 25 43·75 |
| | ζ Delphini | 40·5 | 54·1 | 8·0 | 21·6 | 35·2 | 27 7·88 | + 0·03 | ......... | +51·29 | 20 27 59·20 |
| | 71 Aquilæ | 56·8 | 10·0 | 23·4 | 36·8 | 50·0 | 29 23·40 | + 0·11 | ......... | +51·29 | 20 30 14·80 |
| | α Delphini | 3·1 | 17·0 | 30·6 | 44·4 | 58·2 | 31 30·66 | + 0·03 | ......... | +51·30 | 20 32 21·99 |
| | 10 Delphini | 37·4 | 51·4 | 5·1 | 19·0 | 32·5 | 33 5·08 | + 0·03 | ......... | +51·30 | 20 33 56·41 |
| | δ Delphini | 50·1 | 4·0 | 17·4 | 31·3 | 45·0 | 35 17·56 | + 0·03 | ......... | +51·31 | 20 36 8·90 |
| Aug. 14 | Moon 1 Limb | 1·8 | 17·0 | 32·1 | 47·6 | 3·0 | 32 32·30 | + 0·28 | ......... | +52·56 | 16 33 25·14 |
| | η Ophiuchi | 2·6 | 16·6 | 30·5 | 44·3 | 58·1 | 0 30·42 | + 0·21 | ......... | +52·59 | 17 1 23·22 |
| | α Herculis | 9·8 | 23·5 | 37·3 | 51·1 | 4·7 | 6 37·28 | + 0·06 | +52·64 | +52·60 | 17 7 29·94 |
| | θ Ophiuchi | 0·6 | 15·4 | 30·2 | 44·6 | 59·2 | 11 30·00 | + 0·28 | ......... | +52·61 | 17 12 22·89 |
| | α Ophiuchi | 19·7 | 33·2 | 46·7 | 0·5 | 14·1 | 26 46·84 | + 0·07 | +52·62 | +52·63 | 17 27 39·54 |
| Aug. 15 | η Ophiuchi | 1·3 | 15·1 | 28·8 | 42·6 | 56·5 | 0 28·86 | + 0·21 | ......... | +54·28 | 17 1 23·35 |
| | α Herculis | 8·3 | 22·0 | 35·6 | 49·3 | 3·1 | 6 35·66 | + 0·06 | +54·25 | +54·29 | 17 7 30·01 |
| | θ Ophiuchi | 59·5 | 13·9 | 28·4 | 43·2 | 57·8 | 11 28·56 | + 0·28 | ......... | +54·30 | 17 12 23·14 |
| | α Ophiuchi | 18·1 | 31·5 | 45·3 | 58·9 | 12·4 | 26 45·24 | + 0·07 | +54·21 | +54·32 | 17 27 39·63 |
| | Moon 1 Limb | 36·7 | 52·1 | 7·3 | 22·7 | 38·0 | 31 7·36 | + 0·28 | ......... | +54·33 | 17 32 1·97 |
| | $\gamma^2$ Sagittarii | 18·7 | 34·3 | 49·6 | 5·0 | 20·5 | 54 49·62 | + 0·30 | ......... | +54·38 | 17 55 44·30 |
| | $\mu^1$ Sagittarii | 0·1 | 14·1 | 28·5 | 42·5 | 56·8 | 3 28·40 | + 0·24 | +54·63 | +54·39 | 18 4 23·03 |
| | δ Ursæ Minoris | 57·0 | 41·0 | 25·0 | 9·0 | 53·0 | 22 25·00 | − 4·98 | ......... | +54·42 | 18 23 14·44 |
| | Saturn 1 Limb Ring | ...... | 19·3 | ...... | 48·3 | ...... | 35 33·80 | + 0·26 | ......... | +54·44 | 18 36 28·50 |
| | Saturn 2 Limb Ring | 8·0 | ...... | 36·7 | ...... | 5·5 | 35 36·73 | + 0·26 | ......... | +54·44 | 18 36 31·43 |
| | δ Draconis | 29·6 | 4·2 | 39·0 | 13·5 | 48·2 | 11 38·90 | − 0·58 | ......... | +54·50 | 19 12 32·82 |
| | 9 Cygni | 13·2 | 28·3 | 43·3 | 58·5 | 13·7 | 27 43·40 | − 0·02 | ......... | +54·52 | 19 28 37·90 |
| | φ Cygni | 46·5 | 2·0 | 17·3 | 32·6 | 47·8 | 32 17·24 | − 0·02 | ......... | +54·53 | 19 33 11·75 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 15 | γ Aquilæ | 27·2 | 40·7 | 54·2 | 7·7 | 21·3 | 37 54·22 | + 0·08 | +54·48 | +54·53 | 19 38 48·83 |
| | α Aquilæ | 46·8 | 0·3 | 14·0 | 27·2 | 40·6 | 42 13·78 | + 0·10 | +54·57 | +54·54 | 19 43 8·42 |
| | 56 Aquilæ | 16·4 | 29·8 | 43·2 | 56·8 | 10·3 | 44 43·30 | + 0·19 | ……… | +54·55 | 19 45 38·04 |
| | β Aquilæ | 15·7 | 29·0 | 42·4 | 55·8 | 9·2 | 46 42·42 | + 0·10 | +54·57 | +54·56 | 19 47 37·08 |
| | 14 Sagittæ | 58·0 | 11·6 | 25·5 | 39·4 | 53·2 | 55 25·54 | + 0·05 | ……… | +54·57 | 19 56 20·16 |
| | 20 Vulpeculæ | 2·8 | 17·5 | 32·2 | 47·2 | 2·0 | 4 32·34 | 0·00 | ……… | +54·58 | 20 5 26·92 |
| | 21 Vulpeculæ | 24·2 | 39·2 | 54·2 | 9·2 | 24·5 | 6 54·26 | − 0·02 | ……… | +54·58 | 20 7 48·82 |
| | η Delphini | 10·6 | 24·3 | 38·0 | 51·6 | 5·2 | 25 37·94 | + 0·07 | ……… | +54·60 | 20 26 32·61 |
| | 70 Aquilæ | 12·7 | 26·0 | 39·3 | 52·6 | 6·0 | 27 39·32 | + 0·15 | ……… | +54·61 | 20 28 34·08 |
| | β Delphini | 50·2 | 4·0 | 17·6 | 31·4 | 45·1 | 29 17·66 | + 0·06 | ……… | +54·61 | 20 30 12·33 |
| | 10 Delphini | 34·2 | 48·1 | 1·8 | 15·4 | 29·1 | 33 1·72 | + 0·06 | ……… | +54·62 | 20 33 56·40 |
| | 30 Vulpeculæ | 42·4 | 57·0 | 11·6 | 26·2 | 40·7 | 37 11·58 | + 0·01 | ……… | +54·62 | 20 38 6·21 |
| | 4 Aquarii | 45·8 | 59·1 | 12·3 | 25·8 | 39·2 | 42 12·44 | + 0·17 | ……… | +54·63 | 20 43 7·24 |
| | 31 Vulpeculæ | 1·6 | 16·2 | 31·1 | 46·0 | 1·0 | 44 31·18 | 0·00 | ……… | +54·63 | 20 45 25·81 |
| | A.S.C. 2476 | 28·8 | 42·1 | 55·4 | 8·6 | 22·0 | 46 55·38 | + 0·12 | ……… | +54·64 | 20 47 50·14 |
| | ν Cygni | 51·2 | 8·6 | 26·1 | 43·6 | 1·2 | 50 26·14 | − 0·12 | ……… | +54·64 | 20 51 20·66 |
| | λ Equulei, following | 7·8 | 21·2 | 34·6 | 48·0 | 1·3 | 53 34·58 | + 0·10 | ……… | +54·65 | 20 54 29·33 |
| | ζ Equulei | 25·5 | 38·7 | 52·0 | 5·3 | 18·6 | 55 52·02 | + 0·12 | ……… | +54·65 | 20 56 46·79 |
| | Mercury 2 Limb | 17·2 | 31·0 | 44·8 | 59·0 | 12·7 | 12 44·94 | + 0·05 | ……… | +55·52 | 9 13 40·47 |
| Aug. 16 | Sun 1 Limb | 31·9 | 45·4 | 59·2 | 13·0 | 26·7 | 39 59·24 | + 0·10 | ……… | +55·55 | 9 40 54·89 |
| | Sun 2 Limb | 42·5 | 56·1 | 9·9 | 23·6 | 37·4 | 42 9·90 | + 0·10 | ……… | +55·55 | 9 43 5·55 |
| | Venus 1 Limb | 45·6 | 58·7 | 12·2 | 25·5 | 38·8 | 13 12·16 | + 0·16 | ……… | +55·67 | 12 14 7·99 |
| | α Ursæ Minoris S.P. | 40·5 | 55·0 | 15·0 | …… | …… | 2 13·95 | +10·40 | ……… | +55·72 | 13 3 20·07 |
| | δ Ursæ Minoris | 55·0 | 39·0 | 22·5 | 5·5 | …… | 22 22·38 | − 4·40 | ……… | +56·03 | 18 23 14·01 |
| | Moon 1 Limb | 33·2 | 48·1 | 3·0 | 18·3 | 33·5 | 28 3·22 | + 0·27 | ……… | +56·03 | 18 28 59·52 |
| | α Lyræ | 8·5 | 25·4 | 42·4 | 59·5 | 16·6 | 30 42·48 | − 0·05 | +56·05 | +56·04 | 18 31 38·47 |
| | ι Cygni | 7·4 | 29·0 | 50·2 | 11·8 | 33·0 | 24 50·28 | − 0·16 | ……… | +56·08 | 19 25 46·20 |
| | σ Draconis | 30·6 | 8·8 | 46·5 | 24·2 | 1·8 | 31 46·38 | − 0·55 | ……… | +56·09 | 19 32 41·92 |
| | γ Aquilæ | 25·7 | 39·2 | 52·7 | 6·1 | 19·6 | 37 52·66 | + 0·11 | +56·01 | +56·09 | 19 38 48·86 |
| | α Aquilæ | 45·4 | 58·7 | 12·1 | 25·6 | …… | 42 12·17 | + 0·13 | +56·15 | +56·10 | 19 43 8·40 |
| | τ Aquilæ | 6·2 | 19·5 | 32·8 | 46·4 | 59·6 | 55 32·90 | + 0·13 | ……… | +56·11 | 19 56 29·14 |
| | 20 Vulpeculæ | 1·2 | 16·0 | 30·8 | 45·5 | 0·3 | 4 30·76 | + 0·03 | ……… | +56·12 | 20 5 26·91 |
| | β Delphini | 48·6 | 2·2 | 16·0 | 29·8 | 43·4 | 29 16·00 | + 0·10 | ……… | +56·14 | 20 30 12·24 |
| | α Delphini | 58·1 | 11·9 | 25·5 | 39·3 | 53·1 | 31 25·58 | + 0·09 | ……… | +56·14 | 20 32 21·81 |
| | α Cygni | 32·8 | 51·5 | 10·1 | 28·9 | 47·6 | 35 10·18 | − 0·10 | ……… | +56·15 | 20 36 6·23 |
| | 31 Vulpeculæ | 0·0 | 14·7 | 29·5 | 44·3 | 59·2 | 44 29·54 | + 0·03 | ……… | +56·16 | 20 45 25·73 |
| | 57 Cygni | 10·4 | 28·6 | 47·0 | 5·6 | 24·0 | 46 47·12 | − 0·09 | ……… | +56·16 | 20 47 43·19 |
| Aug. 17 | Sun 1 Limb | 14·3 | 28·0 | 41·8 | 55·6 | 9·2 | 43 41·78 | + 0·06 | ……… | +56·87 | 9 44 38·71 |
| | Sun 2 Limb | 24·7 | 38·4 | 52·2 | 5·8 | 19·5 | 45 52·12 | + 0·06 | ……… | +56·87 | 9 46 49·05 |
| | Venus 1 Limb | 51·9 | 5·3 | 18·6 | 31·8 | 45·2 | 17 18·56 | + 0·13 | ……… | +57·05 | 12 18 15·74 |
| | α Ursæ Minoris S.P. | 39·0 | 53·5 | 13·0 | 31·0 | 48·5 | 2 13·00 | +10·36 | ……… | +57·11 | 13 3 20·47 |
| | δ Ursæ Minoris | …… | 37·5 | 21·0 | 5·5 | …… | 22 21·44 | − 4·43 | ……… | +57·66 | 18 23 14·67 |
| | α Lyræ | 6·8 | 23·9 | 40·8 | 57·9 | 14·9 | 30 40·86 | − 0·09 | +57·69 | +57·69 | 18 31 38·46 |
| | ζ Aquilæ | 47·5 | 1·1 | 14·8 | 28·6 | 42·1 | 57 14·82 | + 0·06 | +57·73 | +57·74 | 18 58 12·62 |
| | δ Aquilæ | 11·5 | 24·8 | 38·1 | 51·3 | 4·6 | 16 38·06 | + 0·11 | +57·71 | +57·78 | 19 17 35·95 |
| | μ Aquilæ | 1·5 | 14·8 | 28·2 | 41·6 | 55·1 | 25 28·24 | + 0·09 | ……… | +57·80 | 19 26 26·13 |
| | 9 Cygni | 9·7 | 24·9 | 40·0 | 55·2 | 10·4 | 27 40·04 | − 0·01 | ……… | +57·81 | 19 28 37·84 |
| | φ Cygni | 43·4 | 58·8 | 14·1 | 29·3 | 44·6 | 32 14·04 | − 0·01 | ……… | +57·82 | 19 33 11·85 |
| | γ Aquilæ | 23·9 | 37·3 | 50·9 | 4·4 | 17·8 | 37 50·86 | + 0·08 | +57·84 | +57·83 | 19 38 48·77 |
| | α Aquilæ | 43·5 | 57·0 | 10·3 | 23·8 | 37·2 | 42 10·36 | + 0·08 | +58·01 | +57·84 | 19 43 8·28 |
| | 13 Vulpeculæ | 21·7 | 36·1 | 50·6 | 5·1 | 19·6 | 45 50·62 | + 0·01 | ……… | +57·85 | 19 46 48·48 |
| | 14 Sagittæ | 54·6 | 8·4 | 22·1 | 36·0 | 49·7 | 55 22·16 | + 0·05 | ……… | +57·86 | 19 56 20·07 |
| | 69 Draconis | 13·2 | 7·8 | 3·4 | 58·7 | 53·2 | 3 3·26 | − 0·96 | ……… | +57·88 | 20 4 0·18 |
| | 21 Vulpeculæ | 20·7 | 35·8 | 51·0 | 6·1 | 21·2 | 6 50·96 | − 0·01 | ……… | +57·89 | 20 7 48·84 |
| | η Delphini | 7·5 | 21·1 | 34·8 | 48·3 | 2·0 | 25 34·74 | + 0·06 | ……… | +57·95 | 20 26 32·75 |
| | 70 Aquilæ | 9·5 | 22·8 | 36·0 | 49·5 | 2·7 | 27 36·10 | + 0·13 | ……… | +57·96 | 20 28 34·19 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 17 | A.S.C. 2440 ......... | 4·8 | 20·0 | 35·3 | 50·5 | 5·9 | 31 35·30 | − 0·03 | ......... | +57·97 | 20 32 33·24 |
| | 30 Vulpeculæ......... | 39·1 | 53·7 | 8·2 | 23·0 | 37·7 | 37 8·34 | + 0·01 | ......... | +57·99 | 20 38 6·34 |
| | λ Delphini............. | 38·1 | 51·4 | 4·9 | 18·2 | 31·4 | 39 4·80 | + 0·10 | ......... | +58·00 | 20 40 2·90 |
| | 4 Aquarii.............. | 42·5 | 55·8 | 9·2 | 22·5 | 35·9 | 42 9·18 | + 0·15 | ......... | +58·02 | 20 43 7·35 |
| | 31 Vulpeculæ......... | 58·2 | 13·1 | 27·9 | 42·9 | 57·7 | 44 27·96 | − 0·01 | ......... | +58·04 | 20 45 25·99 |
| | ν Cygni .................. | 48·0 | 5·4 | 22·9 | 40·5 | 57·9 | 50 22·94 | − 0·10 | ......... | +58·08 | 20 51 20·92 |
| Aug. 18 | Sun 1 Limb............ | 56·5 | 10·0 | 23·7 | 37·4 | 51·1 | 47 23·74 | + 0·12 | ......... | +58·77 | 9 48 22·63 |
| | Sun 2 Limb............ | 6·6 | 20·4 | 34·1 | 47·7 | 1·5 | 49 34·06 | + 0·12 | ......... | +58·77 | 9 50 32·95 |
| | Venus 1 Limb........ | 58·2 | 11·6 | 24·9 | 38·2 | 51·6 | 21 24·90 | + 0·21 | ......... | +58·96 | 12 22 24·07 |
| | α Ursæ Minoris S.P. | 35·5 | 52·0 | ...... | ...... | 44·0 | 2 9·75 | +12·62 | ......... | +59·02 | 13 3 21·39 |
| | 57 Sagittarii .......... | 37·5 | 51·5 | 5·5 | 19·6 | 33·8 | 42 5·58 | + 0·30 | ......... | +59·50 | 19 43 5·38 |
| | $\alpha^2$ Capricorni......... | 54·5 | 8·0 | 21·7 | 35·4 | 49·0 | 8 21·72 | + 0·27 | +59·53 | +59·53 | 20 9 21·52 |
| | Moon 1 Limb......... | 23·0 | 37·4 | 51·8 | 6·2 | 20·7 | 13 51·82 | + 0·30 | ......... | +59·54 | 20 14 51·66 |
| | η Delphini ............. | 5·6 | 19·1 | 32·8 | 46·4 | 0·1 | 25 32·80 | + 0·13 | ......... | +59·54 | 20 26 32·47 |
| | 70 Aquilæ ............ | 7·7 | 20·9 | 34·2 | 47·5 | 0·8 | 27 34·22 | + 0·21 | ......... | +59·55 | 20 28 33·98 |
| | υ Capricorni.......... | 39·5 | 53·7 | 7·8 | 22·0 | 35·9 | 30 7·78 | + 0·29 | ......... | +59·55 | 20 31 7·62 |
| | α Cygni.................. | 29·5 | 48·2 | 6·8 | 25·5 | 44·2 | 35 6·84 | − 0·12 | ......... | +59·55 | 20 36 6·27 |
| | 30 Vulpeculæ......... | 37·2 | 51·8 | 6·5 | 21·1 | 35·7 | 37 6·46 | + 0·05 | ......... | +59·56 | 20 38 6·07 |
| | λ Delphini ............. | 36·4 | 49·6 | 3·0 | 16·4 | 29·7 | 39 3·02 | + 0·16 | ......... | +59·56 | 20 40 2·74 |
| | μ Aquarii.............. | 45·2 | 58·8 | 12·2 | 25·8 | 39·1 | 43 12·22 | + 0·24 | ......... | +59·56 | 20 44 12·02 |
| | χ Delphini............. | 43·4 | 57·0 | 10·5 | 24·0 | 37·4 | 47 10·46 | + 0·13 | ......... | +59·57 | 20 48 10·16 |
| | 11 Aquarii............. | 52·3 | 5·5 | 18·9 | 32·3 | 45·6 | 51 18·92 | + 0·22 | ......... | +59·57 | 20 52 18·71 |
| | 12 Aquarii............. | 20·8 | 34·1 | 47·5 | 0·8 | 14·1 | 54 47·46 | + 0·22 | ......... | +59·57 | 20 55 47·26 |
| Aug. 19 | ζ Aquilæ............... | 43·8 | 57·5 | 11·2 | 24·8 | 38·7 | 57 11·20 | + 0·12 | +61·28 | +61·26 | 18 58 12·58 |
| | δ Draconis ............. | 22·8 | 57·2 | 31·7 | 6·3 | 40·8 | 11 31·76 | − 0·56 | ......... | +61·28 | 19 12 32·48 |
| | δ Aquilæ ............... | 7·6 | 21·0 | 34·4 | 47·6 | 0·9 | 16 34·30 | + 0·18 | +61·39 | +61·29 | 19 17 35·77 |
| | 9 Cygni ................. | 6·1 | 21·3 | 36·6 | 51·8 | 6·9 | 27 36·54 | + 0·03 | ......... | +61·31 | 19 28 37·88 |
| | σ Draconis ............. | 25·7 | 3·5 | 41·2 | 19·1 | 56·2 | 31 41·14 | − 0·19 | ......... | +61·32 | 19 32 42·27 |
| | γ Aquilæ............... | 20·4 | 33·7 | 47·2 | 0·8 | 14·2 | 37 47·26 | + 0·15 | +61·36 | +61·33 | 19 38 48·74 |
| | α Aquilæ............... | 40·0 | 53·5 | 6·9 | 20·4 | 33·9 | 42 6·94 | + 0·15 | +61·35 | +61·35 | 19 43 8·44 |
| | 13 Vulpeculæ......... | 18·1 | 32·5 | 47·0 | 1·6 | 16·0 | 45 47·04 | + 0·06 | ......... | +61·36 | 19 46 48·46 |
| | τ Aquilæ............... | 1·0 | 14·5 | 27·9 | 41·2 | 54·5 | 55 27·82 | + 0·16 | ......... | +61·39 | 19 56 29·37 |
| | 69 Draconis............ | 9·7 | 4·5 | 59·6 | 54·6 | 50·0 | 2 59·68 | − 1·09 | ......... | +61·40 | 20 3 59·99 |
| | 18 Sagittæ............. | 57·1 | 11·4 | 25·5 | 39·8 | 54·1 | 8 25·58 | + 0·08 | ......... | +61·41 | 20 9 27·07 |
| | $\omega^3$ Cygni ................ | 48·3 | 8·5 | 28·6 | 48·8 | 8·8 | 25 28·60 | − 0·15 | ......... | +61·45 | 20 26 29·90 |
| | υ Capricorni.......... | 37·8 | 51·8 | 6·0 | 20·0 | 34·0 | 30 5·92 | + 0·29 | ......... | +61·46 | 20 31 7·67 |
| | 3 Aquarii............... | 0·0 | 13·3 | 26·6 | 40·1 | 53·4 | 38 26·68 | + 0·23 | ......... | +61·48 | 20 39 28·39 |
| | μ Aquarii.............. | 43·4 | 57·0 | 10·6 | 24·1 | 37·5 | 43 10·52 | + 0·27 | ......... | +61·49 | 20 44 12·28 |
| | χ Delphini............. | 41·8 | 55·2 | 9·0 | 22·4 | 36·0 | 47 8·88 | + 0·13 | ......... | +61·50 | 20 48 10·51 |
| | 11 Aquarii ............ | 50·4 | 4·0 | 17·2 | 30·6 | 44·0 | 51 17·24 | + 0·23 | ......... | +61·51 | 20 52 18·98 |
| | 12 Aquarii............. | 19·1 | 32·3 | 45·8 | 59·2 | 12·6 | 54 45·80 | + 0·23 | ......... | +61·51 | 20 55 47·54 |
| | ξ Cygni.................. | 37·0 | 55·2 | 13·5 | 31·8 | 50·0 | 58 13·50 | − 0·10 | ......... | +61·52 | 20 59 14·92 |
| | Moon 1 Limb......... | 0·0 | 14·0 | 28·2 | 42·4 | 56·5 | 2 28·22 | + 0·28 | ......... | +61·52 | 21 3 30·02 |
| | ζ Cygni.................. | 44·6 | 0·0 | 15·2 | 30·5 | 45·7 | 5 15·20 | + 0·03 | +61·55 | +61·53 | 21 6 16·76 |
| | τ Cygni.................. | 58·1 | 14·8 | 31·5 | 48·2 | 4·9 | 7 31·50 | − 0·04 | ......... | +61·54 | 21 8 33·00 |
| Aug. 20 | δ Ursæ Minoris....... | 48·0 | 31·0 | 13·5 | 58·5 | 42·0 | 22 14·60 | − 4·77 | ......... | +62·90 | 18 23 12·73 |
| | Saturn 1 Limb Ring | 7·1 | ...... | 36·0 | ...... | 4·6 | 34 35·90 | + 0·33 | ......... | +62·92 | 18 35 39·15 |
| | Saturn 2 Limb Ring | ...... | 24·4 | ...... | 53·2 | ...... | 34 38·80 | + 0·33 | ......... | +62·92 | 18 35 42·05 |
| | β Lyræ.................. | 43·3 | 59·3 | 15·1 | 31·0 | 46·8 | 43 15·10 | + 0·03 | +62·94 | +62·94 | 18 44 18·07 |
| | Jupiter 1 Limb....... | 56·9 | ...... | 25·9 | ...... | 54·8 | 57 25·87 | + 0·33 | ......... | +62·96 | 18 58 29·16 |
| | Jupiter 2 Limb....... | ...... | 14·6 | ...... | 43·5 | ...... | 57 29·05 | + 0·33 | ......... | +62·96 | 18 58 32·34 |
| | 59 Draconis........... | 2·0 | 58·2 | 54·2 | 50·0 | 46·5 | 13 54·18 | − 0·99 | ......... | +62·98 | 19 14 56·17 |
| | γ Aquilæ............... | 18·8 | 32·2 | 45·6 | 59·1 | 12·6 | 37 45·66 | + 0·17 | +62·93 | +63·02 | 19 38 48·85 |
| | α Aquilæ............... | 38·3 | 51·7 | 5·2 | 18·8 | 32·1 | 42 5·22 | + 0·17 | +63·04 | +63·03 | 19 43 8·42 |
| | β Aquilæ............... | 7·2 | 20·5 | 33·8 | 47·2 | 0·6 | 46 33·86 | + 0·18 | +63·03 | +63·04 | 19 47 37·08 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 20 | 69 Draconis | 8·0 | 2·6 | 57·6 | 52·5 | 47·8 | 2 57·70 | − 0·97 | ......... | +63·05 | 20 3 59·78 |
| | 18 Sagittæ | 55·4 | 9·7 | 24·0 | 38·2 | 52·4 | 8 23·94 | + 0·10 | ......... | +63·06 | 20 9 27·10 |
| | $\omega^3$ Cygni | 46·6 | 6·4 | 26·6 | 46·8 | 7·0 | 25 26·68 | − 0·11 | ......... | +63·08 | 20 26 29·65 |
| | β Delphini | 41·9 | 55·4 | 9·1 | 22·8 | 36·6 | 29 9·16 | + 0·14 | ......... | +63·09 | 20 30 12·39 |
| | A.S.C. 2440 | 59·4 | 14·8 | 30·1 | 45·2 | 0·5 | 31 30·00 | + 0·09 | ......... | +63·10 | 20 32 33·19 |
| | α Cygni | 25·8 | 44·6 | 3·4 | 22·1 | 40·8 | 35 3·34 | − 0·07 | ......... | +63·10 | 20 36 6·37 |
| | λ Delphini | 33·0 | 46·2 | 59·5 | 12·9 | 26·3 | 38 59·58 | + 0·19 | ......... | +63·10 | 20 40 2·87 |
| | 4 Aquarii | 37·2 | 50·5 | 4·0 | 17·3 | 30·8 | 42 3·96 | + 0·24 | ......... | +63·11 | 20 43 7·31 |
| | A.S.C. 2499 | 2·0 | 18·2 | 35·2 | 51·0 | 7·5 | 53 34·78 | − 1·47 | ......... | +63·12 | 20 54 36·43 |
| | 77 Draconis | 31·6 | 33·0 | 34·4 | 36·2 | 37·3 | 7 34·50 | − 1·11 | ......... | +63·13 | 21 8 36·52 |
| | ι Capricorni | ...... | 14·0 | 27·7 | 41·7 | 55·5 | 12 27·76 | + 0·30 | ......... | +63·14 | 21 13 31·20 |
| | A.S.C. 2541 | 23·5 | 38·1 | 52·7 | 7·2 | 21·6 | 15 52·62 | + 0·09 | ......... | +63·14 | 21 16 55·85 |
| | β Aquarii | 48·4 | 1·9 | 15·2 | 28·6 | 42·0 | 22 15·22 | + 0·24 | +63·12 | +63·15 | 21 23 18·61 |
| | 26 Aquarii | 41·1 | 54·3 | 7·5 | 20·8 | 34·0 | 33 7·54 | + 0·21 | ......... | +63·17 | 21 34 10·92 |
| | 9 Pegasi | 34·8 | 48·7 | 2·5 | 16·5 | 30·4 | 36 2·58 | + 0·13 | ......... | +63·18 | 21 37 5·89 |
| | 12 Pegasi | 20·5 | 34·8 | 49·1 | 3·6 | 18·0 | 37 49·20 | + 0·10 | ......... | +63·18 | 21 38 52·48 |
| | 13 Pegasi | 11·0 | 24·5 | 38·4 | 52·2 | 6·2 | 41 38·46 | + 0·13 | ......... | +63·19 | 21 42 41·78 |
| | 15 Pegasi | 57·6 | 12·7 | 27·7 | 42·8 | 57·9 | 44 27·74 | + 0·07 | ......... | +63·19 | 21 45 31·00 |
| | Moon 1 Limb | 17·5 | 31·4 | 45·1 | 58·9 | 12·8 | 48 45·14 | + 0·26 | ......... | +63·20 | 21 49 48·60 |
| | (a) Moon 2 Limb | 20·8 | 34·5 | 48·4 | 2·2 | 16·0 | 50 48·38 | + 0·26 | ......... | +63·20 | 21 51 51·84 |
| | ο Aquarii | 42·6 | 56·0 | 9·3 | 22·7 | 36·0 | 54 9·32 | + 0·23 | ......... | +63·21 | 21 55 12·76 |
| | ν Pegasi | 17·0 | 30·3 | 43·5 | 56·8 | 10·2 | 56 43·56 | + 0·19 | ......... | +63·21 | 21 57 46·96 |
| | ι Pegasi | 11·2 | 25·8 | 40·3 | 55·0 | 9·6 | 58 40·38 | + 0·29 | ......... | +63·21 | 21 59 43·88 |
| | ζ Cephei | 34·9 | 59·5 | 24·2 | 48·7 | 13·5 | 4 24·16 | − 0·24 | ......... | +63·22 | 22 5 27·14 |
| | ϑ Aquarii | 3·6 | 17·1 | 30·4 | 44·0 | 57·5 | 7 30·52 | + 0·26 | ......... | +63·22 | 22 8 34·00 |
| | ζ Aquarii, following | 16·3 | 29·6 | 42·8 | 56·1 | 9·3 | 19 42·82 | + 0·21 | ......... | +63·24 | 22 20 46·27 |
| Aug. 21 | β Aquarii | 47·0 | 0·3 | 13·6 | 27·0 | 40·4 | 22 13·66 | + 0·29 | +64·63 | +64·67 | 21 23 18·62 |
| | 26 Aquarii | 39·5 | 52·7 | 5·9 | 19·2 | 32·5 | 33 5·96 | + 0·25 | ......... | +64·69 | 21 34 10·90 |
| | ε Pegasi | 58·0 | 11·3 | 24·7 | 38·1 | 51·4 | 35 24·70 | + 0·21 | +64·81 | +64·70 | 21 36 29·61 |
| | 12 Pegasi | 18·6 | 33·0 | 47·4 | 1·8 | 16·1 | 37 47·38 | + 0·13 | ......... | +64·70 | 21 38 52·21 |
| | 13 Pegasi | 9·0 | 23·0 | 37·0 | 50·8 | 4·7 | 41 36·90 | + 0·16 | ......... | +64·71 | 21 42 41·77 |
| | 15 Pegasi | 55·8 | 11·0 | 26·0 | 41·1 | 56·2 | 44 26·02 | + 0·09 | ......... | +64·72 | 21 45 30·83 |
| | ο Aquarii | 41·1 | 54·3 | 7·6 | 21·1 | 34·5 | 54 7·72 | + 0·27 | ......... | +64·74 | 21 55 12·73 |
| | ι Pegasi | 9·6 | 24·3 | 38·8 | 53·3 | 8·0 | 58 38·80 | + 0·34 | ......... | +64·75 | 21 59 43·89 |
| | ζ Cephei | 33·4 | 57·6 | 22·4 | 47·2 | 11·5 | 4 22·42 | − 0·22 | ......... | +64·77 | 22 5 26·97 |
| | Moon 2 Limb | 59·9 | 13·3 | 27·0 | 40·6 | 54·2 | 35 27·00 | + 0·28 | ......... | +64·83 | 22 36 32·11 |
| | λ Aquarii | 54·5 | 8·0 | 21·3 | 34·8 | 48·2 | 43 21·36 | + 0·30 | ......... | +64·84 | 22 44 26·50 |
| | β Piscium | 22·8 | 36·1 | 49·4 | 2·6 | 16·0 | 54 49·38 | + 0·24 | ......... | +64·85 | 22 55 54·47 |
| | α Pegasi | ...... | 39·2 | 52·9 | 6·8 | 20·3 | 55 52·94 | + 0·18 | +64·73 | +64·85 | 22 56 57·97 |
| Aug. 22 | Sun 1 Limb | 40·0 | 53·7 | 7·2 | 20·8 | 34·5 | 2 7·24 | + 0·27 | ......... | +65·18 | 10 3 12·69 |
| | Sun 2 Limb | 49·8 | 3·4 | 17·0 | 30·6 | 44·3 | 4 17·02 | + 0·27 | ......... | +65·18 | 10 5 22·47 |
| | (b) Venus 1 Limb | 21·2 | 34·5 | 47·8 | 1·2 | 14·7 | 38 47·88 | + 0·37 | ......... | + 5·41 | 12 38 53·66 |
| | α Ursæ Minoris S.P. | ...... | 46·5 | 3·0 | 22·5 | 39·0 | 3 3·82 | +14·37 | ......... | + 5·45 | 13 3 23·64 |
| | α Serpentis | 59·4 | 12·7 | 26·0 | 39·4 | 52·8 | 36 26·06 | + 0·30 | + 5·84 | + 5·78 | 15 36 32·14 |
| | α Herculis | 56·4 | 10·0 | 23·8 | 37·5 | 51·2 | 7 23·78 | + 0·25 | + 5·83 | + 5·98 | 17 7 30·01 |
| | δ Ursæ Minoris | 44·0 | 27·5 | 11·5 | 56·0 | 39·5 | 23 11·70 | − 5·92 | ......... | + 6·14 | 18 23 11·92 |
| | Saturn 1 Limb Ring | ...... | 0·9 | ...... | 29·5 | ...... | 35 15·40 | + 0·49 | ......... | + 6·16 | 18 35 22·05 |
| | Saturn 2 Limb Ring | 49·3 | ...... | 18·1 | ...... | 46·7 | 35 18·03 | + 0·49 | ......... | + 6·16 | 18 35 24·68 |
| | β Lyræ | 40·0 | 56·0 | 11·8 | 27·8 | 43·5 | 44 11·82 | + 0·11 | + 6·11 | + 6·17 | 18 44 18·10 |
| | Jupiter 1 Limb | 23·9 | ...... | 52·8 | ...... | 21·6 | 57 52·77 | + 0·50 | ......... | + 6·20 | 18 57 59·47 |
| | Jupiter 2 Limb | ...... | 41·6 | ...... | 10·5 | ...... | 57 56·05 | + 0·50 | ......... | + 6·20 | 18 58 2·75 |
| | 59 Draconis | 58·2 | 54·5 | 50·8 | 46·8 | 42·6 | 14 50·58 | − 1·18 | ......... | + 6·23 | 19 14 55·63 |
| | γ Aquilæ | 15·1 | 28·6 | 42·2 | 55·7 | 9·1 | 38 42·14 | + 0·28 | + 6·33 | + 6·28 | 19 38 48·70 |
| | α Aquilæ | 35·1 | 48·5 | 1·9 | 15·2 | 28·7 | 43 1·88 | + 0·30 | + 6·24 | + 6·29 | 19 43 8·47 |
| | 69 Draconis | 4·4 | 59·2 | 54·7 | 49·8 | 44·5 | 3 54·52 | − 1·15 | ......... | + 6·31 | 20 3 59·68 |
| | 18 Sagittæ | 52·1 | 6·4 | 20·6 | 34·9 | 49·1 | 9 20·62 | + 0·20 | ......... | + 6·32 | 20 9 27·14 |

(a) Unenlightened limb. (b) Clock put forward one minute.

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. |  | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  |  | observed. | interpolated. |  |  |  |
|  |  | s. | s. | s. | s. | s. | m. | s. | s. | s. | s. | h. | m. | s. |
| Aug. 22 | $\omega^3$ Cygni | 43·4 | 3·5 | 23·5 | 43·6 | 3·8 | 26 | 23·56 | − 0·07 | ……… | + 6·33 | 20 | 26 | 29·82 |
|  | γ Delphini | 39·6 | 3·6 | 17·3 | 31·1 | 44·9 | 39 | 17·30 | + 0·25 | ……… | + 6·34 | 20 | 39 | 23·89 |
|  | 57 Cygni | 1·5 | 18·8 | 37·2 | 55·5 | 13·8 | 47 | 37·36 | − 0·01 | ……… | + 6·36 | 20 | 47 | 43·71 |
|  | 77 Draconis | 28·5 | 29·8 | 31·2 | 32·5 | 34·0 | 8 | 31·20 | − 1·33 | ……… | + 6·38 | 21 | 8 | 36·25 |
|  | 1 Pegasi | 16·2 | 30·4 | 44·5 | 58·6 | 12·5 | 14 | 44·44 | + 0·22 | ……… | + 6·39 | 21 | 14 | 51·05 |
|  | 21 Aquarii | 33·5 | 46·8 | 0·1 | 13·5 | 26·8 | 17 | 0·14 | + 0·37 | ……… | + 6·39 | 21 | 17 | 6·90 |
|  | 9 Pegasi | 31·7 | 45·5 | 59·4 | 13·2 | 27·0 | 36 | 59·36 | + 0·24 | ……… | + 6·40 | 21 | 37 | 6·00 |
|  | 12 Pegasi | 17·1 | 31·5 | 46·0 | 0·3 | 14·6 | 38 | 45·90 | + 0·20 | ……… | + 6·40 | 21 | 38 | 52·50 |
|  | 13 Pegasi | 7·5 | 21·3 | 35·1 | 49·0 | 3·0 | 42 | 35·18 | + 0·24 | ……… | + 6·41 | 21 | 42 | 41·83 |
|  | 15 Pegasi | 54·2, | 9·4 | 24·4 | 39·6 | 54·5 | 45 | 24·42 | + 0·15 | ……… | + 6·41 | 21 | 45 | 30·98 |
|  | ο Aquarii | 39·5 | 52·8 | 6·0 | 19·3 | 32·6 | 55 | 6·04 | + 0·36 | ……… | + 6·42 | 21 | 55 | 12·82 |
|  | ν Pegasi | 13·5 | 27·0 | 40·2 | 53·6 | 7·0 | 57 | 40·26 | + 0·32 | ……… | + 6·42 | 21 | 57 | 47·00 |
|  | ι Pegasi | 8·0 | 22·3 | 37·0 | 51·7 | 6·3 | 59 | 37·06 | + 0·44 | ……… | + 6·42 | 21 | 59 | 43·92 |
|  | ζ Cephei | 31·5 | 56·1 | 21·1 | 45·5 | 10·2 | 5 | 20·88 | − 0·23 | ……… | + 6·43 | 22 | 5 | 27·08 |
|  | λ Aquarii | 53·0 | 6·2 | 19·6 | 33·0 | 46·5 | 44 | 19·66 | + 0·40 | ……… | + 6·47 | 22 | 44 | 26·53 |
|  | β Piscium | 21·1 | 34·5 | 47·8 | 1·0 | 14·4 | 55 | 47·76 | + 0·33 | ……… | + 6·48 | 22 | 55 | 54·57 |
|  | Moon 2 Limb | 53·3 | 7·1 | 20·5 | 34·1 | 47·5 | 20 | 20·50 | + 0·34 | ……… | + 6·50 | 23 | 20 | 27·34 |
|  | ι Piscium | 20·2 | 33·5 | 46·9 | 0·3 | 13·7 | 31 | 46·92 | + 0·31 | + 6·45 | + 6·52 | 23 | 31 | 53·75 |
| Aug. 24 | δ Ursæ Minoris | 40·0 | 24·0 | …… | 52·0 | 34·0 | 23 | 7·46 | − 5·74 | ……… | + 9·69 | 18 | 23 | 11·41† |
|  | β Lyræ | 36·5 | 52·4 | 8·3 | 24·1 | 40·1 | 44 | 8·28 | + 0·10 | + 9·63 | + 9·71 | 18 | 44 | 18·09† |
|  | δ Aquilæ | 59·3 | 12·5 | 25·7 | 39·1 | 52·4 | 17 | 25·80 | + 0·31 | + 9·72 | + 9·74 | 19 | 17 | 35·85† |
|  | γ Aquilæ | 11·7 | 25·3 | 38·9 | 52·2 | 5·7 | 38 | 38·76 | + 0·27 | + 9·70 | + 9·76 | 19 | 38 | 48·79† |
|  | α Aquilæ | 31·5 | 44·8 | 58·3 | 11·7 | 25·2 | 42 | 58·30 | + 0·28 | + 9·83 | + 9·77 | 19 | 43 | 8·35† |
|  | β Aquilæ | 0·4 | 13·5 | 27·0 | 40·2 | 53·5 | 47 | 26·92 | + 0·29 | + 9·83 | + 9·78 | 19 | 47 | 36·99† |
| Aug. 27 | Sun 1 Limb | 54·2 | 7·6 | 21·4 | 35·0 | 48·5 | 21 | 21·34 | + 0·25 | ……… | +14·19 | 10 | 21 | 35·78† |
|  | Sun 2 Limb | 3·3 | 16·8 | 30·3 | 44·0 | 57·4 | 23 | 30·36 | + 0·25 | ……… | +14·19 | 10 | 23 | 44·80† |
|  | α Bootis | 46·5 | 0·6 | 15·0 | 29·0 | 43·2 | 8 | 14·86 | + 0·19 | +14·50 | +14·47 | 14 | 8 | 29·52† |
|  | ε Bootis | 22·6 | 37·6 | 52·6 | 7·7 | 22·7 | 37 | 52·64 | + 0·13 | +14·59 | +14·51 | 14 | 38 | 7·28† |
|  | δ Ursæ Minoris | 33·0 | 17·5 | …… | 46·0 | …… | 23 | 1·35 | − 5·80 | ……… | +14·77 | 18 | 23 | 10·32† |
|  | β Lyræ | 31·3 | 47·3 | 3·1 | 19·0 | 35·0 | 44 | 3·14 | + 0·09 | +14·73 | +14·80 | 18 | 44 | 18·03† |
|  | ζ Aquilæ | …… | 43·8 | 57·5 | 11·2 | 25·0 | 57 | 57·54 | + 0·22 | +14·76 | +14·81 | 18 | 58 | 12·57† |
|  | α Aquilæ | 26·4 | 40·0 | 53·3 | 6·7 | 20·1 | 42 | 53·30 | + 0·26 | +14·82 | +14·87 | 19 | 43 | 8·43† |
| Aug. 29 | α Aurigæ | …… | 27·5 | 46·6 | 5·6 | 24·7 | 4 | 46·57 | − 0·07 | ……… | +19·19 | 5 | 5 | 5·69† |
|  | Moon 2 Limb | 47·4 | 2·5 | …… | 33·0 | 48·0 | 17 | 17·73 | + 0·13 | ……… | +19·21 | 5 | 17 | 37·07† |
|  | ε Orionis | 28·5 | 41·8 | 55·0 | 8·4 | 21·5 | 27 | 55·04 | + 0·31 | +19·27 | +19·22 | 5 | 28 | 14·57† |
|  | α Orionis | 53·6 | 7·1 | 20·5 | 34·0 | 47·3 | 46 | 20·50 | + 0·27 | +19·19 | +19·24 | 5 | 46 | 40·01† |
| Aug. 30 | δ Ursæ Minoris | 27·0 | 10·5 | 55·0 | 38·5 | 22·5 | 22 | 54·70 | − 5·97 | ……… | +19·77 | 18 | 23 | 8·50 |
|  | Saturn 1 Limb Ring | …… | 53·3 | …… | 22·1 | …… | 34 | 7·70 | + 0·53 | ……… | +19·78 | 18 | 34 | 28·01 |
|  | Saturn 2 Limb Ring | 41·7 | …… | 10·6 | …… | 39·4 | 34 | 10·57 | + 0·53 | ……… | +19·78 | 18 | 34 | 30·88 |
|  | β Lyræ | 26·2 | 42·1 | 58·0 | 13·9 | 29·9 | 43 | 58·02 | + 0·15 | +19·74 | +19·79 | 18 | 44 | 17·96 |
|  | Jupiter 1 Limb | …… | 56·9 | …… | 25·9 | …… | 56 | 11·40 | + 0·54 | ……… | +19·82 | 18 | 56 | 31·76 |
|  | Jupiter 2 Limb | 45·7 | …… | 14·6 | …… | 43·7 | 56 | 14·67 | + 0·54 | ……… | +19·82 | 18 | 56 | 35·03 |
|  | τ Draconis | 44·5 | 30·2 | 15·9 | 1·5 | 47·0 | 18 | 15·82 | − 0·85 | ……… | +19·84 | 19 | 18 | 34·81 |
|  | γ Aquilæ | 1·4 | 15·0 | 28·6 | 42·0 | 55·5 | 38 | 28·50 | + 0·32 | +19·86 | +19·87 | 19 | 38 | 48·69 |
|  | α Aquilæ | 21·2 | 34·6 | 48·1 | 1·5 | 15·0 | 42 | 48·08 | + 0·33 | +19·95 | +19·88 | 19 | 43 | 8·29 |
|  | β Aquilæ | 50·2 | 3·5 | 16·9 | 30·4 | 43·7 | 47 | 16·94 | + 0·34 | +19·72 | +19·89 | 19 | 47 | 37·17 |
|  | 69 Draconis | 50·2 | 45·0 | 40·0 | 35·8 | 30·6 | 3 | 40·32 | − 1·12 | ……… | +19·90 | 20 | 3 | 59·10 |
|  | 22 Vulpeculæ | 55·6 | 10·0 | 24·4 | 38·8 | 53·3 | 8 | 24·42 | + 0·24 | ……… | +19·91 | 20 | 8 | 44·57 |
|  | A.S.C. 2440 | 42·4 | 57·7 | 13·0 | 28·3 | 43·5 | 32 | 12·98 | + 0·19 | ……… | +19·94 | 20 | 32 | 33·11 |
|  | α Cygni | 8·7 | 27·5 | 46·2 | 5·0 | 23·8 | 35 | 46·24 | + 0·02 | ……… | +19·94 | 20 | 36 | 6·20 |
|  | γ Delphini, following | 35·9 | 49·7 | 3·5 | 17·3 | 31·1 | 39 | 3·50 | + 0·28 | ……… | +19·95 | 20 | 39 | 23·73 |
|  | χ Delphini | 23·0 | 36·5 | 49·9 | 3·5 | 17·1 | 47 | 50·00 | + 0·31 | ……… | +19·96 | 20 | 48 | 10·27 |
|  | 12 Aquarii | 0·2 | 13·5 | 26·9 | 40·2 | 53·6 | 55 | 26·88 | + 0·43 | ……… | +19·98 | 20 | 55 | 47·29 |
|  | 77 Draconis | 15·0 | 15·5 | 16·8 | 18·2 | 19·5 | 8 | 17·00 | − 1·31 | ……… | +19·99 | 21 | 8 | 35·68 |

| Date. | Object Observed. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Aug. 30 | 1 Pegasi | 2·5 | 16·4 | 30·5 | 44·6 | 58·8 | 14 30·56 | + 0·27 | ……… | +20·00 | 21 14 50·83 |
|  | A.S.C. 2541 | 6·7 | 21·1 | 35·6 | 50·1 | 4·6 | 16 35·62 | + 0·23 | ……… | +20·01 | 21 16 55·86 |
|  | 26 Aquarii | 24·1 | 37·3 | 50·6 | 3·8 | 17·1 | 33 50·58 | + 0·38 | ……… | +20·04 | 21 34 11·00 |
|  | ε Orionis | 27·3 | 40·6 | 53·8 | 7·1 | 20·5 | 27 53·86 | + 0·39 | +20·40 | +20·47 | 5 28 14·72 |
|  | 136 Tauri | 36·7 | 51·6 | 6·6 | 21·6 | 36·7 | 43 6·64 | + 0·20 | ……… | +20·48 | 5 43 27·32 |
|  | α Orionis | 52·4 | 5·6 | 19·1 | 32·5 | 45·9 | 46 19·10 | + 0·34 | +20·55 | +20·49 | 5 46 39·93 |
|  | η Geminorum | 34·0 | 48·4 | 2·7 | 17·1 | 31·5 | 5 2·74 | + 0·24 | ……… | +20·50 | 6 5 23·48 |
|  | μ Geminorum | 37·6 | 52·0 | 6·4 | 20·7 | 35·2 | 13 6·38 | + 0·24 | +20·44 | +20·50 | 6 13 27·12 |
|  | Moon 2 Limb | 15·4 | 30·5 | 45·6 | 0·5 | 15·7 | 19 45·54 | + 0·22 | ……… | +20·51 | 6 20 6·27 |
|  | δ Ursæ Minoris S.P. | 13·5 | …… | 41·5 | 26·0 | 9·0 | 22 41·34 | + 6·78 | ……… | +20·51 | 6 23 8·63 |
|  | ε Geminorum | 25·4 | 40·0 | 54·8 | 9·5 | 24·2 | 33 54·78 | + 0·22 | ……… | +20·52 | 6 34 15·52 |
|  | ζ Geminorum | 57·8 | 12·0 | 25·8 | 40·3 | 54·5 | 54 26·08 | + 0·25 | ……… | +20·55 | 6 54 46·88 |
|  | Mars 2 Limb | 32·7 | 46·9 | 0·6 | 14·7 | 28·8 | 19 0·74 | + 0·28 | ……… | +20·66 | 9 19 21·68 |
| Aug. 31 | Sun 2 Limb | 32·1 | 45·5 | 58·9 | 12·4 | 26·0 | 37 58·98 | + 0·33 | ……… | +20·70 | 10 38 20·01 |
|  | Mercury 1 Limb | 22·9 | 36·1 | 49·7 | 3·1 | 16·6 | 5 49·68 | + 0·34 | ……… | +20·73 | 11 6 10·75 |
|  | α Ursæ Minoris S.P. | 17·5 | 35·5 | 53·5 | …… | …… | 2 53·69 | +14·10 | ……… | +20·87 | 13 3 28·66 |
|  | β Lyræ | 24·8 | 40·5 | 56·5 | 12·3 | 28·1 | 43 56·44 | + 0·15 | +21·30 | +21·31 | 18 44 17·90 |
|  | ζ Aquilæ | 23·6 | 37·2 | 51·0 | 4·6 | 18·2 | 57 50·92 | + 0·30 | +21·25 | +21·33 | 18 58 12·55 |
|  | γ Aquilæ | 0·0 | 13·5 | 27·0 | 40·5 | 54·0 | 38 27·00 | + 0·33 | +21·34 | +21·43 | 19 38 48·76 |
|  | α Aquilæ | 19·6 | 33·0 | 46·4 | 0·0 | 13·3 | 42 46·46 | + 0·34 | +21·55 | +21·45 | 19 43 8·25 |
|  | β Aquilæ | 48·7 | 1·9 | 15·3 | 28·5 | 41·8 | 47 15·24 | + 0·35 | +21·40 | +21·46 | 19 47 37·05 |
|  | 22 Vulpeculæ | 54·0 | 8·5 | 23·0 | 37·3 | 51·7 | 8 22·90 | + 0·24 | ……… | +21·48 | 20 8 44·62 |
|  | 29 Vulpeculæ | 41·7 | 56·0 | 10·2 | 24·3 | 38·5 | 31 10·14 | + 0·25 | ……… | +21·54 | 20 31 31·93 |
|  | γ Delphini, following | 34·3 | 48·0 | 1·8 | 15·6 | 29·6 | 39 1·86 | + 0·29 | ……… | +21·56 | 20 39 23·71 |
|  | 57 Cygni | 44·9 | 3·3 | 21·7 | 40·2 | 58·5 | 47 21·72 | + 0·04 | ……… | +21·58 | 20 47 43·34 |
| Sept. 3 | 29 Vulpeculæ | 36·8 | 50·9 | 5·0 | 19·2 | 33·4 | 31 5·06 | + 0·25 | ……… | +26·39 | 20 31 31·70 |
|  | α Cygni | 2·2 | 21·0 | 39·7 | 58·5 | 17·2 | 35 39·72 | + 0·10 | ……… | +26·39 | 20 36 6·21 |
|  | 5 Aquarii | 58·1 | 11·3 | 24·8 | 38·1 | 51·5 | 43 24·76 | + 0·41 | ……… | +26·40 | 20 43 51·57 |
|  | μ Delphini | 17·8 | 31·3 | 45·0 | 58·7 | 12·4 | 47 45·04 | + 0·29 | ……… | +26·41 | 20 48 11·74 |
|  | A.S.C. 2499 | 38·5 | 54·5 | 10·5 | 27·0 | 43·5 | 54 10·80 | − 1·65 | ……… | +26·42 | 20 54 35·57 |
|  | ζ Cygni | 19·5 | 34·8 | 50·1 | 5·4 | 20·5 | 5 50·06 | + 0·19 | +26·48 | +26·43 | 21 6 16·68 |
|  | 1 Pegasi | 56·0 | 10·1 | 24·1 | 38·2 | 52·1 | 14 24·10 | + 0·19 | ……… | +26·44 | 21 14 50·73 |
|  | 21 Aquarii | 13·4 | 26·6 | 40·0 | 53·3 | 6·5 | 16 39·96 | + 0·40 | ……… | +26·45 | 21 17 6·81 |
|  | 7 Pegasi | 32·1 | 45·3 | 58·7 | 12·0 | 25·3 | 33 58·68 | + 0·35 | ……… | +26·47 | 21 34 25·50 |
|  | ε Pegasi | 36·0 | 49·4 | 2·9 | 16·5 | 29·8 | 36 2·92 | + 0·32 | +26·50 | +26·48 | 21 36 29·72 |
|  | 11 Pegasi | 24·1 | 37·4 | 50·7 | 4·1 | 17·3 | 38 50·72 | + 0·36 | ……… | +26·48 | 21 39 17·56 |
|  | 14 Pegasi | 58·4 | 13·5 | 28·7 | 44·0 | 59·3 | 42 28·78 | + 0·19 | ……… | +26·49 | 21 42 55·46 |
|  | 16 Pegasi | 0·7 | 15·2 | 30·0 | 44·6 | 59·2 | 45 29·94 | + 0·21 | ……… | +26·49 | 21 45 56·64 |
|  | 21 Pegasi | 44·3 | 58·0 | 11·3 | 24·8 | 38·3 | 55 11·34 | + 0·31 | ……… | +26·50 | 21 55 38·15 |
|  | α Aquarii | 51·0 | 4·2 | 17·5 | 30·9 | 44·1 | 57 17·54 | + 0·39 | +26·43 | +26·50 | 21 57 44·43 |
| Sept. 6 | Sun 1 Limb | 57·9 | 11·2 | 24·7 | 38·0 | 51·5 | 57 24·66 | + 0·34 | ……… | +30·78 | 10 57 55·78 |
|  | Sun 2 Limb | 6·2 | 19·5 | 32·8 | 46·2 | 59·7 | 59 32·88 | + 0·34 | ……… | +30·78 | 11 0 4·00 |
|  | Mercury 1 Limb | 24·9 | 38·3 | 51·7 | 5·0 | 18·3 | 43 51·64 | + 0·35 | ……… | +30·84 | 11 44 22·83 |
|  | α Ursæ Minoris S.P. | 11·5 | 29·5 | 47·0 | 5·0 | …… | 2 47·07 | +13·88 | ……… | +30·95 | 13 3 31·90 |
|  | α Bootis | 29·8 | 43·9 | 58·0 | 12·2 | 26·4 | 7 58·06 | + 0·26 | +31·10 | +31·03 | 14 8 29·35 |
|  | β Lyræ | 14·6 | 30·5 | 46·3 | 2·1 | 18·0 | 43 46·30 | + 0·15 | +31·33 | +31·40 | 18 44 17·85 |
|  | Jupiter 1 Limb | …… | 10·9 | …… | 39·8 | …… | 55 25·35 | + 0·53 | ……… | +31·41 | 18 55 57·29 |
|  | Jupiter 2 Limb | 59·8 | …… | 28·6 | …… | 57·4 | 55 28·60 | + 0·53 | ……… | +31·41 | 18 56 0·54 |
|  | ζ Aquilæ | 13·4 | 27·0 | 40·6 | 54·4 | 8·1 | 57 40·70 | + 0·29 | +31·40 | +31·41 | 18 58 12·40 |
|  | τ Draconis | 32·6 | 18·2 | 3·8 | 49·4 | 35·0 | 18 3·80 | − 0·79 | ……… | +31·43 | 19 18 34·44 |
|  | γ Aquilæ | 49·9 | 3·4 | 16·8 | 30·4 | 43·8 | 38 16·86 | + 0·32 | +31·42 | +31·45 | 19 38 48·63 |
|  | α Aquilæ | 9·7 | 23·0 | 36·4 | 49·9 | 3·3 | 42 36·46 | + 0·33 | +31·50 | +31·46 | 19 43 8·25 |
|  | λ Ursæ Minoris | 38·0 | 36·5 | 32·5 | 31·5 | 31·0 | 19 33·90 | −17·31 | ……… | +31·50 | 20 19 48·09 |
|  | 5 Aquarii | 52·8 | 6·3 | 19·5 | 32·8 | 46·4 | 43 19·56 | + 0·41 | ……… | +31·53 | 20 43 51·50 |
|  | μ Delphini | 12·6 | 26·3 | 40·0 | 53·6 | 7·2 | 47 39·94 | + 0·29 | ……… | +31·54 | 20 48 11·77 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Sept. 6 | A.S.C. 2499 | 33·6 | 49·4 | 5·2 | 21·8 | 37·8 | 54 5·56 | − 1·65 | ……… | +31·55 | 20 54 35·46 |
|  | 77 Draconis | 2·8 | 4·2 | 5·4 | 6·8 | 8·2 | 8 5·48 | − 1·23 | ……… | +31·56 | 21 8 35·81 |
|  | β Equulei | 8·6 | 21·9 | 35·3 | 48·6 | 2·0 | 14 35·28 | + 0·34 | ……… | +31·56 | 21 15 7·18 |
|  | 21 Aquarii | 8·2 | 21·5 | 34·8 | 48·1 | 1·5 | 16 34·82 | + 0·40 | ……… | +31·56 | 21 17 6·78 |
|  | 9 Pegasi | 6·4 | 20·2 | 34·1 | 48·0 | 1·9 | 36 34·12 | + 0·27 | ……… | +31·58 | 21 37 5·97 |
|  | 11 Pegasi | 18·9 | 32·2 | 45·6 | 58·9 | 12·1 | 38 45·54 | + 0·36 | ……… | +31·59 | 21 39 17·49 |
|  | 14 Pegasi | 53·2 | 8·5 | 23·7 | 39·1 | 54·3 | 42 23·76 | + 0·19 | ……… | +31·60 | 21 42 55·55 |
|  | 16 Pegasi | 55·4 | 10·0 | 24·7 | 39·5 | 54·1 | 45 24·74 | + 0·22 | ……… | +31·60 | 21 45 56·56 |
|  | 21 Pegasi | 39·1 | 52·7 | 6·2 | 19·8 | 33·1 | 55 6·18 | + 0·31 | ……… | +31·61 | 21 55 38·10 |
|  | ι Pegasi | 48·3 | 1·7 | 15·0 | 28·3 | 41·5 | 57 14·96 | + 0·35 | ……… | +31·61 | 21 57 46·92 |
| Sept. 8 | β Aquarii | 16·7 | 30·0 | 43·3 | 56·8 | 10·1 | 22 43·38 | + 0·40 | +34·81 | +34·80 | 21 23 18·58 |
|  | 7 Pegasi | 23·4 | 36·9 | 50·3 | 3·7 | 17·0 | 33 50·26 | + 0·34 | ……… | +34·82 | 21 34 25·42 |
|  | ε Pegasi | 27·7 | 41·1 | 54·6 | 8·1 | 21·6 | 35 54·62 | + 0·32 | +34·80 | +34·83 | 21 36 29·77 |
|  | 11 Pegasi | 15·8 | 29·1 | 42·4 | 55·6 | 8·8 | 38 42·34 | + 0·35 | ……… | +34·83 | 21 39 17·52 |
|  | 14 Pegasi | 50·0 | 5·2 | 20·5 | 35·8 | 51·0 | 42 20·50 | + 0·19 | ……… | +34·84 | 21 42 55·53 |
|  | 16 Pegasi | 52·1 | 6·9 | 21·6 | 36·2 | 50·8 | 45 21·52 | + 0·21 | ……… | +34·85 | 21 45 56·58 |
|  | 21 Pegasi | 35·9 | 49·5 | 3·0 | 16·5 | 29·9 | 55 2·96 | + 0·30 | ……… | +34·86 | 21 55 38·12 |
|  | α Aquarii | 42·7 | 55·9 | 9·1 | 22·3 | 35·5 | 57 9·10 | + 0·37 | +34·90 | +34·86 | 21 57 44·33 |
|  | A.S.C. 2650 | 1·1 | 18·2 | 35·2 | 52·2 | 9·4 | 6 35·22 | + 0·10 | ……… | +34·87 | 22 7 10·19 |
|  | 1 Lacertæ | 1·1 | 17·8 | 34·5 | 51·1 | 7·8 | 8 34·46 | + 0·11 | ……… | +34·87 | 22 9 9·44 |
|  | σ Aquarii | 15·0 | 28·3 | 41·6 | 54·8 | 8·1 | 16 41·56 | + 0·36 | ……… | +34·88 | 22 17 16·80 |
|  | 35 Pegasi | 54·0 | 7·2 | 20·6 | 34·1 | 47·4 | 19 20·66 | + 0·35 | ……… | +34·88 | 22 19 55·89 |
| Sept. 9 | Moon 1 Limb | 5·1 | 20·1 | 34·9 | 49·9 | 4·7 | 11 34·94 | + 0·48 | ……… | +35·89 | 15 12 11·31 |
|  | α Coronæ Borealis | 56·2 | 11·1 | 25·9 | 40·9 | 55·8 | 27 25·98 | + 0·18 | +35·92 | +35·90 | 15 28 2·06 |
|  | α Serpentis | 29·0 | 42·4 | 55·7 | 9·1 | 22·5 | 35 55·74 | + 0·30 | +35·88 | +35·91 | 15 36 31·95 |
|  | α Ophiuchi | 35·5 | 49·2 | 2·9 | 16·6 | 30·1 | 27 2·86 | + 0·28 | +35·98 | +36·00 | 17 27 39·14 |
|  | δ Ursæ Minoris | 7·0 | 50·0 | 34·0 | …… | …… | 22 34·45 | − 5·30 | ……… | +36·06 | 18 23 5·21 |
|  | α Cygni | 52·4 | 11·1 | 29·6 | 48·4 | 7·1 | 35 29·72 | + 0·02 | ……… | +36·23 | 20 36 5·97 |
|  | 5 Aquarii | 48·1 | 1·4 | 14·7 | 28·2 | 41·5 | 43 14·78 | + 0·38 | ……… | +36·24 | 20 43 51·40 |
|  | μ Delphini | 8·0 | 21·4 | 35·1 | 48·8 | 2·5 | 47 35·16 | + 0·28 | ……… | +36·24 | 20 48 11·68 |
|  | A.S.C. 2499 | 28·3 | 44·6 | 0·1 | 16·5 | 33·2 | 54 0·54 | − 1·55 | ……… | +36·25 | 20 54 35·24 |
|  | 77 Draconis | 58·0 | 59·0 | 0·5 | 2·0 | 3·2 | 8 0·54 | − 1·16 | ……… | +36·26 | 21 8 35·64 |
|  | β Equulei | 3·8 | 17·2 | 30·5 | 43·8 | 57·2 | 14 30·50 | + 0·31 | ……… | +36·27 | 21 15 7·08 |
|  | A.S.C. 2541 | 50·5 | 4·9 | 19·2 | 33·7 | 48·1 | 16 19·28 | + 0·20 | ……… | +36·27 | 21 16 55·75 |
| Sept. 10 | Sun 1 Limb | 16·7 | 30·0 | 43·4 | 56·8 | 10·1 | 11 43·40 | + 0·31 | ……… | +37·33 | 11 12 21·04 |
|  | Sun 2 Limb | 21·7 | 38·1 | 51·3 | 4·7 | 18·1 | 13 51·38 | + 0·31 | ……… | +37·33 | 11 14 29·02 |
|  | Venus 1 Limb | 12·3 | 26·0 | 39·7 | 53·6 | 7·1 | 56 39·74 | + 0·42 | ……… | +37·53 | 13 57 17·69 |
|  | γ Aquilæ | 43·4 | 57·0 | 10·4 | 23·9 | 37·3 | 38 10·40 | + 0·29 | +37·86 | +37·90 | 19 38 48·59 |
|  | α Aquilæ | 3·1 | 16·6 | 30·0 | 43·4 | 56·8 | 42 29·98 | + 0·30 | +37·96 | +37·91 | 19 43 8·19 |
| Sept. 11 | δ Ophiuchi | 1·0 | 14·3 | 27·6 | 40·9 | 54·2 | 5 27·60 | + 0·36 | +39·16 | +39·30 | 16 6 7·26 |
|  | α Scorpii | 37·5 | 52·3 | 7·4 | 22·2 | 37·1 | 19 7·30 | + 0·50 | +39·45 | +39·31 | 16 19 47·11 |
| Sept. 12 | Sun 1 Limb | 24·8 | 38·2 | 51·5 | 4·8 | 18·1 | 18 51·48 | + 0·33 | ……… | +40·64 | 11 19 32·45 |
|  | Sun 2 Limb | 32·7 | 46·1 | 59·3 | 12·6 | 26·1 | 20 59·36 | + 0·33 | ……… | +40·64 | 11 21 40·33 |
|  | α Ursæ Minoris S.P. | 4·5 | 29·5 | 42·0 | 59·0 | 16·5 | 2 40·50 | +13·23 | ……… | +40·78 | 13 3 34·51 |
|  | Venus 1 Limb | 27·8 | 41·4 | 55·2 | 9·0 | 22·8 | 4 55·24 | + 0·44 | ……… | +40·86 | 14 5 36·54 |
|  | α Bootis | 20·0 | 34·1 | 48·2 | 2·4 | 16·4 | 7 48·22 | + 0·24 | +40·89 | +40·87 | 14 8 29·33 |
|  | α Herculis | 20·8 | 34·3 | 48·1 | 1·8 | 15·6 | 6 48·12 | + 0·26 | +41·13 | +41·10 | 17 7 29·48 |
|  | α Ophiuchi | 30·6 | 44·1 | 57·6 | 11·3 | 24·9 | 26 57·70 | + 0·28 | +41·09 | +41·12 | 17 27 39·10 |
|  | δ Ursæ Minoris | 1·0 | 44·5 | 29·0 | 13·0 | 56·5 | 22 28·80 | − 5·39 | ……… | +41·20 | 18 23 4·61 |
|  | Saturn 1 Limb Ring | 44·9 | …… | 13·9 | …… | 42·6 | 33 13·80 | + 0·49 | ……… | +41·21 | 18 33 55·50 |
|  | Saturn 2 Limb Ring | …… | 2·5 | …… | 31·2 | …… | 33 16·85 | + 0·49 | ……… | +41·21 | 18 33 58·55 |
|  | β Lyræ | 4·5 | 20·4 | 36·2 | 52·2 | 8·1 | 43 36·28 | + 0·11 | +41·23 | +41·23 | 18 44 17·66 |
|  | Jupiter 1 Limb | 49·9 | …… | 18·6 | …… | 47·5 | 55 18·67 | + 0·49 | ……… | +41·25 | 18 56 0·41 |
|  | Jupiter 2 Limb | …… | 7·3 | …… | 36·2 | …… | 55 21·75 | + 0·49 | ……… | +41·25 | 18 56 3·49 |

| Date. | Object Observed. | Wire. I. | II. | III. | IV. | V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Sept. 12 | ζ Aquilæ | 3·4 | 17·1 | 30·7 | 44·4 | 58·2 | 57 30·76 | + 0·27 | +41·27 | +41·26 | 18 58 12·29 |
| | 23 Vulpeculæ | 5·2 | 20·4 | 35·2 | 50·1 | 5·1 | 8 35·20 | + 0·18 | ……… | +41·34 | 20 9 16·72 |
| | 29 Vulpeculæ | 21·6 | 35·8 | 50·1 | 4·2 | 18·4 | 30 50·02 | + 0·23 | ……… | +41·37 | 20 31 31·62 |
| | 32 Vulpeculæ | 41·9 | 56·8 | 11·9 | 26·8 | 41·7 | 47 11·82 | + 0·18 | ……… | +41·39 | 20 47 53·39 |
| Sept. 13 | Sun 2 Limb | 6·6 | 19·9 | 33·4 | 46·6 | 0·0 | 24 33·30 | + 0·30 | ……… | +42·46 | 11 25 16·06 |
| | γ Aquilæ | 38·3 | 51·7 | 5·0 | 18·5 | 32·0 | 38 5·10 | + 0·27 | +43·14 | +43·05 | 19 38 48·42 |
| | α Aquilæ | 58·0 | 11·4 | 24·9 | 38·3 | 51·7 | 42 24·86 | + 0·28 | +43·06 | +43·06 | 19 43 8·20 |
| | β Aquilæ | 26·9 | 40·2 | 53·5 | 6·9 | 20·4 | 46 53·58 | + 0·29 | +42·98 | +43·06 | 19 47 36·93 |
| | 23 Vulpeculæ | 3·7 | 18·5 | 33·2 | 48·5 | 3·1 | 8 33·40 | + 0·16 | ……… | +43·09 | 20 9 16·65 |
| | α Cygni | 45·5 | 4·1 | 22·9 | 41·5 | 0·2 | 35 22·84 | + 0·02 | ……… | +43·13 | 20 36 5·99 |
| | 32 Vulpeculæ | 40·1 | 55·1 | 10·1 | 25·1 | 40·0 | 47 10·08 | + 0·16 | ……… | +43·15 | 20 47 53·39 |
| | A.S.C. 2499 | 20·7 | 37·0 | 53·2 | 9·6 | 25·6 | 53 53·22 | − 1·48 | ……… | +43·16 | 20 54 34·90 |
| | ζ Cygni | 2·7 | 18·1 | 33·3 | 48·6 | 3·9 | 5 33·32 | + 0·15 | +43·18 | +43·17 | 21 6 16·64 |
| Sept. 14 | α Ursæ Minoris S.P. | …… | …… | 39·5 | 56·5 | 22·5 | 2 40·86 | +12·32 | ……… | +44·29 | 13 3 37·47 |
| | δ Ursæ Minoris | 56·5 | 40·0 | 23·0 | …… | 51·0 | 22 22·99 | − 5·08 | ……… | +44·71 | 18 23 2·62 |
| | α Pegasi | 45·3 | 58·9 | 12·5 | 26·8 | 40·1 | 56 12·72 | + 0·21 | +45·11 | +45·11 | 22 56 58·04 |
| Sept. 15 | Sun 1 Limb | 6·2 | 19·6 | 32·8 | 46·1 | 59·4 | 29 32·82 | + 0·28 | ……… | +45·65 | 11 30 18·75 |
| | Sun 2 Limb | 14·2 | 27·6 | 40·8 | 54·0 | 7·4 | 31 40·80 | + 0·28 | ……… | +45·65 | 11 32 26·73 |
| | α Aquilæ | 55·0 | 8·4 | 21·8 | 35·3 | 48·5 | 42 21·80 | + 0·25 | +46·12 | +46·20 | 19 43 8·25 |
| | β Aquilæ | 23·7 | 37·0 | 50·4 | 3·7 | 17·1 | 46 50·38 | + 0·26 | +46·19 | +46·20 | 19 47 36·84 |
| | 23 Vulpeculæ | 0·5 | 15·6 | 30·6 | 45·4 | 0·4 | 8 30·50 | + 0·14 | ……… | +46·22 | 20 9 16·86 |
| | $\beta^2$ Capricorni | 58·0 | 11·8 | 25·6 | 39·3 | 53·1 | 11 25·56 | + 0·38 | ……… | +46·23 | 20 12 12·17 |
| | α Cygni | 42·3 | 1·0 | 19·8 | 38·5 | 57·2 | 35 19·76 | − 0·01 | ……… | +46·27 | 20 36 6·02 |
| | τ Cephei | 33·2 | 13·1 | 53·1 | 33·2 | 13·2 | 38 53·16 | − 0·59 | ……… | +46·34 | 21 39 38·91 |
| | α Pegasi | 44·1 | 57·7 | 11·3 | 25·1 | 38·7 | 56 11·38 | + 0·22 | +46·44 | +46·42 | 22 56 58·02 |
| Sept. 16 | Sun 1 Limb | 40·3 | 53·7 | 7·1 | 20·4 | 33·6 | 33 7·02 | + 0·29 | ……… | +46·89 | 11 33 54·20 |
| | Sun 2 Limb | 48·2 | 1·5 | 15·0 | 28·2 | 41·6 | 35 14·90 | + 0·29 | ……… | +46·89 | 11 36 2·08 |
| | τ Draconis | 16·1 | 1·6 | 47·0 | 32·8 | 18·4 | 17 47·18 | + 0·14 | ……… | +47·27 | 19 18 34·59 |
| | γ Aquilæ | 34·0 | 47·5 | 1·0 | 14·4 | 27·9 | 38 0·96 | + 0·25 | +47·27 | +47·30 | 19 38 48·51 |
| | α Aquilæ | 53·8 | 7·3 | 20·6 | 34·1 | 47·5 | 42 20·66 | + 0·26 | +47·24 | +47·31 | 19 43 8·23 |
| | α Cygni | 41·4 | 0·1 | 18·8 | 37·5 | 56·2 | 35 18·80 | − 0·01 | ……… | +47·36 | 20 36 6·15 |
| | 32 Vulpeculæ | 36·0 | 50·9 | 6·0 | 20·8 | 35·9 | 47 5·92 | + 0·14 | ……… | +47·37 | 20 47 53·43 |
| | β Equulei | 52·9 | 6·2 | 19·5 | 32·9 | 46·2 | 14 19·54 | + 0·27 | ……… | +47·39 | 21 15 7·20 |
| | Moon 1 Limb | 39·8 | 53·6 | 7·3 | 21·2 | 35·1 | 34 7·40 | + 0·36 | ……… | +47·41 | 21 34 55·17 |
| | ε Pegasi | 15·1 | 28·6 | 42·0 | 55·5 | 8·9 | 35 42·02 | + 0·25 | +47·43 | +47·41 | 21 36 29·68 |
| | ζ Pegasi | 24·6 | 38·1 | 51·5 | 5·2 | 18·7 | 32 51·62 | + 0·25 | +47·48 | +47·47 | 22 33 39·34 |
| | Uranus | 53·7 | 6·9 | 20·2 | 33·5 | 47·0 | 47 20·26 | + 0·31 | ……… | +47·54 | 23 48 8·11 |
| Sept. 17 | δ Ursæ Minoris | 51·0 | 34·5 | 18·0 | 3·0 | 47·0 | 22 18·70 | − 5·32 | ……… | +48·14 | 18 23 1·52 |
| | Saturn 1 Limb Ring | …… | 59·5 | …… | 28·3 | …… | 33 13·90 | + 0·48 | ……… | +48·15 | 18 34 2·53 |
| | Saturn 2 Limb Ring | 48·0 | …… | 16·8 | …… | 45·6 | 33 16·80 | + 0·48 | ……… | +48·15 | 18 34 5·43 |
| | β Lyræ | 57·4 | 3·4 | 29·2 | 45·1 | 1·0 | 43 29·22 | + 0·16 | +48·16 | +48·16 | 18 44 17·54 |
| | Jupiter 1 Limb | …… | 22·8 | …… | 51·8 | …… | 55 37·30 | + 0·48 | ……… | +48·17 | 18 56 25·95 |
| | Jupiter 2 Limb | 11·3 | …… | 40·2 | …… | 9·2 | 55 40·23 | + 0·48 | ……… | +48·17 | 18 56 28·88 |
| | ζ Aquilæ | 56·4 | 10·1 | 23·8 | 37·5 | 51·1 | 57 23·78 | + 0·28 | +48·16 | +48·17 | 18 58 12·23 |
| | τ Draconis | 15·2 | 0·6 | 45·9 | 31·8 | 17·6 | 17 46·22 | + 0·28 | ……… | +48·18 | 19 18 34·68 |
| | $o^2$ Cygni | 15·7 | 34·9 | 54·1 | 13·3 | 32·5 | 7 54·10 | + 0·03 | ……… | +48·21 | 20 8 42·34 |
| | α Cygni | 40·4 | 59·1 | 17·8 | 36·5 | 55·1 | 35 17·78 | + 0·04 | ……… | +48·23 | 20 36 6·05 |
| | ζ Cygni | 57·6 | 12·9 | 28·1 | 43·4 | 58·7 | 5 28·14 | + 0·18 | +48·29 | +48·25 | 21 6 16·57 |
| | 6 Cephei | 19·0 | 49·4 | 20·5 | 51·0 | 21·3 | 15 20·24 | − 0·30 | ……… | +48·25 | 21 16 8·19 |
| | 7 Pegasi | 10·1 | 23·5 | 36·9 | 50·2 | 3·6 | 33 36·86 | + 0·32 | ……… | +48·26 | 21 34 25·44 |
| | ε Pegasi | 14·3 | 27·7 | 41·1 | 54·6 | 8·0 | 35 41·14 | + 0·31 | +48·25 | +48·26 | 21 36 29·71 |
| | ι Aquarii | 42·3 | 56·0 | 9·8 | 23·6 | 37·2 | 57 9·78 | + 0·44 | ……… | +48·28 | 21 57 58·50 |
| | θ Aquarii | 18·5 | 32·0 | 45·5 | 59·1 | 12·4 | 7 45·50 | + 0·40 | ……… | +48·28 | 22 8 34·18 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Sept. 17 | Moon 1 Limb | 44·9 | 58·4 | 12·1 | 25·8 | 39·6 | 19 12·16 | + 0·39 | ......... | +48·28 | 22 20 0·83 |
| | δ Cephei | 45·3 | 10·1 | 35·0 | 59·9 | 24·5 | 22 34·96 | − 0·13 | ......... | +48·28 | 22 23 23·11 |
| | λ Aquarii | 11·2 | 24·6 | 38·0 | 51·4 | 4·9 | 43 38·02 | + 0·40 | ......... | +48·29 | 22 44 26·71 |
| | 3 Piscium | 21·1 | 34·3 | 47·5 | 0·8 | 14·0 | 51 47·54 | + 0·36 | ......... | +48·29 | 22 52 36·19 |
| | Uranus | 44·0 | 57·2 | 10·5 | 23·8 | 37·0 | 47 10·50 | + 0·37 | ......... | +48·31 | 23 47 59·18 |
| Sept. 18 | Moon 1 Limb | 53·7 | 7·1 | 20·8 | 34·3 | 47·9 | 3 20·76 | + 0·39 | ......... | +49·08 | 23 4 10·23 |
| | $\varkappa^1$ Piscium | 38·2 | 51·5 | 4·9 | 18·2 | 31·5 | 18 4·86 | + 0·38 | ......... | +49·09 | 23 18 54·33 |
| | α Andromedæ | 59·0 | 14·0 | 29·1 | 44·1 | 59·1 | 59 29·06 | + 0·22 | +49·12 | +49·11 | 0 0 18·39 |
| | γ Pegasi | 54·0 | 7·7 | 21·3 | 35·1 | 48·9 | 4 21·40 | + 0·30 | +49·08 | +49·11 | 0 5 10·81 |
| Sept. 19 | α Ursæ Minoris S.P. | ...... | ...... | 37·0 | 53·5 | 12·5 | 2 35·53 | +13·37 | ......... | +49·75 | 13 3 38·65 |
| | Venus 1 Limb | 33·9 | 48·1 | 2·2 | 16·0 | 29·8 | 34 2·00 | + 0·56 | ......... | +49·82 | 14 34 52·38 |
| | δ Ursæ Minoris | 49·0 | 31·5 | 17·0 | 0·5 | 43·5 | 22 16·30 | − 5·30 | ......... | +49·98 | 18 23 0·98 |
| | α Lyræ | 13·4 | 30·5 | 47·7 | 4·6 | 21·7 | 30 47·58 | + 0·19 | +49·99 | +49·98 | 18 31 37·75 |
| | Saturn 1 Limb Ring | 48·9 | ...... | 17·6 | ...... | 46·4 | 33 17·63 | + 0·60 | ......... | +49·98 | 18 34 8·21 |
| | Saturn 2 Limb Ring | ...... | 5·8 | ...... | 34·8 | ...... | 33 20·30 | + 0·60 | ......... | +49·98 | 18 34 10·88 |
| | β Lyræ | 55·6 | 11·4 | 27·2 | 43·1 | 59·1 | 43 27·28 | + 0·26 | +49·96 | +49·99 | 18 44 17·53 |
| | Jupiter 1 Limb | 22·3 | ...... | 51·2 | ...... | 19·9 | 55 51·13 | + 0·60 | ......... | +49·99 | 18 56 41·72 |
| | Jupiter 2 Limb | ...... | 39·7 | ...... | 8·8 | ...... | 55 54·25 | + 0·60 | ......... | +49·99 | 18 56 44·84 |
| | τ Draconis | 12·7 | 58·2 | 43·8 | 29·5 | 15·5 | 17 43·94 | + 0·52 | ......... | +50·01 | 19 18 34·47 |
| | $o^2$ Cygni | 13·8 | 32·9 | 52·1 | 11·3 | 30·6 | 7 52·14 | + 0·11 | ......... | +50·04 | 20 8 42·29 |
| | α Cygni | 38·5 | 57·2 | 15·9 | 34·6 | 53·2 | 35 15·88 | + 0·13 | ......... | +50·06 | 20 36 6·07 |
| | α Leonis | 41·5 | 54·9 | 8·6 | 22·2 | 35·8 | 59 8·60 | + 0·39 | +50·39 | +50·39 | 9 59 59·38 |
| Sept. 20 | Sun 1 Limb | 58·0 | 11·2 | 24·6 | 38·0 | 51·2 | 47 24·60 | + 0·41 | ......... | +50·53 | 11 48 15·54 |
| | Sun 2 Limb | 6·1 | 19·3 | 32·6 | 45·9 | 59·2 | 49 32·62 | + 0·41 | ......... | +50·53 | 11 50 23·56 |
| | δ Ursæ Minoris | 47·5 | 31·0 | 15·5 | 0·0 | 43·0 | 22 15·40 | − 5·47 | ......... | +50·66 | 18 23 0·59 |
| | α Lyræ | 13·1 | 29·9 | 47·1 | 3·9 | 21·0 | 30 47·00 | + 0·14 | +50·60 | +50·67 | 18 31 37·81 |
| | Saturn 1 Limb Ring | ...... | 5·9 | ...... | 34·7 | ...... | 33 20·30 | + 0·56 | ......... | +50·68 | 18 34 11·54 |
| | Saturn 2 Limb Ring | 54·2 | ...... | 23·1 | ...... | 51·7 | 33 23·00 | + 0·56 | ......... | +50·68 | 18 34 14·24 |
| | β Lyræ | 54·7 | 10·6 | 26·6 | 42·4 | 58·2 | 43 26·50 | + 0·21 | +50·77 | +50·69 | 18 44 17·40 |
| | Jupiter 1 Limb | ...... | 45·0 | ...... | 14·0 | ...... | 55 59·50 | + 0·56 | ......... | +50·70 | 18 56 50·76 |
| | Jupiter 2 Limb | 33·7 | ...... | 2·6 | ...... | 31·7 | 56 2·67 | + 0·56 | ......... | +50·70 | 18 56 53·93 |
| | $o^2$ Cygni | 13·0 | 32·1 | 51·3 | 10·5 | 29·8 | 7 51·34 | + 0·06 | ......... | +50·80 | 20 8 42·20 |
| | α Cygni | 37·7 | 56·4 | 15·1 | 33·7 | 52·3 | 35 15·04 | + 0·08 | ......... | +50·83 | 20 36 5·95 |
| | 61 Cygni, preceding | 28·3 | ...... | 1·8 | ...... | 35·3 | 59 1·80 | + 0·14 | ......... | +50·86 | 20 59 52·80 |
| | 61 Cygni, following | ...... | 46·5 | ...... | 20·1 | ...... | 59 3·30 | + 0·14 | ......... | +50·86 | 20 59 54·30 |
| | ζ Cygni | 54·8 | 10·1 | 25·5 | 40·8 | 56·0 | 5 25·44 | + 0·23 | +50·90 | +50·87 | 21 6 16·54 |
| | 6 Cephei | 16·5 | 47·0 | 17·6 | 48·2 | 18·8 | 15 17·62 | − 0·30 | ......... | +50·88 | 21 16 8·20 |
| | μ Cygni | 47·4 | 2·6 | 17·7 | 32·8 | 47·9 | 36 17·68 | + 0·24 | ......... | +50·90 | 21 37 8·82 |
| | 32 Aquarii | 26·2 | 39·6 | 52·8 | 6·1 | 19·5 | 55 52·84 | + 0·42 | ......... | +50·92 | 21 56 44·18 |
| | 23 Pegasi | 8·0 | 23·2 | 38·2 | 53·4 | 8·5 | 57 38·26 | + 0·24 | ......... | +50·92 | 21 58 29·42 |
| | A.S.C. 2650 | 45·0 | 2·1 | 19·2 | 36·2 | 53·2 | 6 19·14 | + 0·14 | ......... | +50·93 | 22 7 10·21 |
| | ϖ Aquarii | 59·1 | 12·2 | 25·5 | 38·8 | 52·0 | 16 25·52 | + 0·41 | ......... | +50·94 | 22 17 16·87 |
| | 35 Pegasi | 38·0 | 51·4 | 4·6 | 18·0 | 31·3 | 19 4·66 | + 0·39 | ......... | +50·95 | 22 19 56·00 |
| | δ Cephei | 42·8 | 7·5 | 32·2 | 57·0 | 21·7 | 22 32·24 | − 0·13 | ......... | +50·95 | 22 23 23·06 |
| | ζ Pegasi | 21·0 | 34·4 | 48·0 | 1·5 | 15·0 | 32 47·98 | + 0·36 | +51·00 | +50·96 | 22 33 39·30 |
| | A.S.C. 2734, follow. | 32·6 | 0·0 | 27·3 | 54·7 | 22·0 | 44 27·32 | − 0·19 | ......... | +50·97 | 22 45 18·10 |
| | Piazzi XXII. 295 | 51·0 | 48·0 | 45·5 | 43·0 | 41·5 | 54 45·80 | − 2·65 | ......... | +50·98 | 22 55 34·13 |
| | Uranus | 14·8 | 28·1 | 41·4 | 54·7 | 8·0 | 46 41·40 | + 0·43 | ......... | +51·03 | 23 47 32·86 |
| | 41 Piscium | 14·7 | 28·0 | ...... | 55·0 | 8·2 | 11 41·48 | + 0·37 | ......... | +51·04 | 0 12 32·89 |
| | Moon 2 Limb | 53·7 | 7·5 | 21·1 | 34·9 | 48·7 | 34 21·18 | + 0·37 | ......... | +51·07 | 0 35 12·62 |
| Sept. 21 | α Ursæ Minoris S.P. | ...... | 15·5 | ...... | ...... | 13·5 | 2 35·49 | +10·97 | ......... | +51·33 | 13 3 37·79 |
| | α Bootis | 9·4 | 23·5 | 37·5 | 51·7 | 5·9 | 7 37·60 | + 0·28 | +51·39 | +51·35 | 14 8 29·23 |
| | α Ophiuchi | 20·0 | 33·6 | 47·2 | 0·9 | 14·4 | 26 47·22 | + 0·31 | +51·39 | +51·42 | 17 27 38·95 |

| Date. | Object Observed. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
|  |  |  |  |  | Instrument Reversed. |  |  |  |  |  |  |
| Sept. 26 | ζ Pegasi | 15·7 | 29·2 | 42·8 | 56·1 | 9·7 | 32 42·70 | + 0·43 | +56·20 | +56·15 | 22 33 39·28 |
|  | ι Piscium | 30·6 | 44·0 | 57·4 | 10·8 | 24·1 | 30 57·38 | + 0·46 | +56·14 | +56·18 | 23 31 54·02 |
|  | Uranus | 16·7 | 29·9 | 43·3 | 56·6 | 9·9 | 45 43·28 | + 0·50 | ......... | +56·19 | 23 46 39·97 |
|  | α Andromedæ | 51·8 | 6·9 | 22·0 | 37·0 | 52·1 | 59 21·96 | + 0·32 | +56·17 | +56·20 | 0 0 18·48 |
|  | γ Pegasi | 46·7 | 0·5 | 14·1 | 27·9 | 41·7 | 4 14·18 | + 0·41 | +56·25 | +56·20 | 0 5 10·79 |
| Sept. 27 | α Aquarii | 20·2 | ...... | 46·9 | 0·1 | 13·5 | 56 46·85 | + 0·49 | +56·96 | +57·02 | 21 57 44·36 |
|  | π Aquarii | 52·5 | 5·8 | 19·1 | 32·4 | 45·6 | 16 19·08 | + 0·48 | ......... | +57·04 | 22 17 16·60 |
|  | 35 Pegasi | 31·7 | 45·0 | 58·3 | 11·6 | 25·0 | 18 58·32 | + 0·46 | ......... | +57·04 | 22 19 55·82 |
|  | δ Cephei | 36·2 | 0·8 | 25·8 | 50·8 | 15·6 | 22 25·84 | − 0·05 | ......... | +57·05 | 22 23 22·84 |
|  | ζ Pegasi | 14·8 | ...... | 41·8 | 55·3 | 8·7 | 32 41·77 | + 0·43 | +57·12 | +57·06 | 22 33 39·26 |
|  | Moon 2 Limb | 44·8 | 59·7 | 14·6 | 29·5 | 44·3 | 56 14·58 | + 0·34 | ......... | +57·50 | 6 57 12·42 |
| Sept. 28 | α Ursæ Minoris S.P. | 52·0 | 9·5 | ...... | 48·0 | ...... | 2 28·82 | +13·11 | ......... | +57·72 | 13 3 39·65 |
|  | α Cygni | 30·3 | 48·9 | 7·6 | 36·2 | 44·9 | 35 7·58 | + 0·18 | ......... | +58·11 | 20 36 5·87 |
|  | ε Pegasi | 4·2 | 17·6 | 30·9 | 44·4 | 57·8 | 35 30·98 | + 0·45 | +58·18 | +58·18 | 21 36 29·61 |
|  | ζ Pegasi | 13·5 | 27·1 | 40·7 | 54·1 | 7·6 | 32 40·60 | + 0·44 | +58·28 | +58·25 | 22 33 39·29 |
|  | ι Piscium | 28·6 | 41·9 | 55·2 | 8·5 | 21·9 | 30 55·22 | + 0·48 | +58·29 | +58·32 | 23 31 54·02 |
|  | δ Geminorum | 16·6 | 30·9 | 45·2 | 59·7 | 14·0 | 9 45·28 | + 0·37 | +58·87 | +58·93 | 7 10 44·58 |
|  | $\alpha^2$ Geminorum | 3·7 | 19·4 | 35·1 | 50·8 | 6·5 | 23 35·10 | + 0·30 | +59·04 | +58·94 | 7 24 34·34 |
|  | α Canis Minoris | 38·7 | 51·9 | 5·3 | 18·7 | 32·0 | 30 5·32 | + 0·47 | +58·87 | +58·94 | 7 31 4·73 |
|  | β Geminorum | 12·4 | 27·4 | 42·6 | 57·8 | 12·9 | 34 42·62 | + 0·33 | +59·02 | +58·95 | 7 35 41·90 |
|  | Moon 2 Limb | 3·7 | 18·2 | 32·7 | 47·1 | 1·7 | 56 32·68 | + 0·39 | ......... | +58·97 | 7 57 32·04 |
|  | δ Cancri | 17·5 | 31·4 | 45·6 | 59·6 | 13·6 | 34 45·54 | + 0·40 | ......... | +58·99 | 8 35 44·93 |
|  | ε Hydræ | 0·8 | 14·2 | 27·5 | 41·0 | 54·4 | 37 27·58 | + 0·46 | +58·99 | +59·00 | 8 38 27·04 |
| Sept. 29 | Sun 1 Limb | 13·2 | 26·4 | ...... | 53·0 | 6·3 | 19 39·73 | + 0·56 | ......... | +59·12 | 12 20 39·41 |
|  | α Coronæ Borealis | 32·4 | 47·2 | 2·2 | 17·1 | 32·0 | 27 2·18 | + 0·36 | +59·22 | +59·22 | 15 28 1·76 |
|  | δ Ursæ Minoris | 36·0 | 19·0 | 3·5 | ...... | 30·5 | 22 3·12 | − 5·78 | ......... | +59·33 | 18 22 56·67 |
|  | α Lyræ | 4·0 | 20·8 | 37·8 | 54·9 | 11·8 | 30 37·86 | + 0·24 | +59·40 | +59·33 | 18 31 37·43 |
|  | β Lyræ | 46·0 | 1·8 | 17·7 | 33·6 | 49·5 | 43 17·72 | + 0·32 | +59·24 | +59·34 | 18 44 17·38 |
|  | 32 Aquarii | 17·7 | 30·8 | 44·0 | 57·4 | 10·6 | 55 44·10 | + 0·56 | ......... | +59·54 | 21 56 44·20 |
|  | 23 Pegasi | 59·4 | 14·4 | 29·6 | 44·6 | 59·8 | 57 29·56 | + 0·36 | ......... | +59·54 | 21 58 29·46 |
|  | 4 Lacertæ | 31·7 | 51·7 | 11·8 | 31·8 | 51·9 | 17 11·78 | + 0·13 | ......... | +59·56 | 22 18 11·47 |
|  | ζ Pegasi | 12·3 | 25·7 | 39·1 | 52·7 | 6·2 | 32 39·20 | + 0·48 | +59·63 | +59·57 | 22 33 39·25 |
|  | α Pegasi | 30·7 | 44·2 | 58·0 | 11·8 | 25·6 | 55 58·06 | + 0·46 | +59·52 | +59·58 | 22 56 58·10 |
| Sept. 30 | Sun 1 Limb | 48·9 | 2·1 | 15·5 | 28·8 | 42·0 | 23 15·46 | + 0·50 | ......... | +60·20 | 12 24 16·16 |
|  | Sun 2 Limb | 57·2 | 10·6 | 23·8 | 37·2 | 50·5 | 25 23·86 | + 0·50 | ......... | +60·20 | 12 26 24·56 |
|  | Mercury 1 Limb | 51·0 | 4·6 | 18·4 | 32·1 | 45·7 | 51 18·36 | + 0·56 | ......... | +60·28 | 13 52 19·20 |
|  | α Bootis | 0·4 | 14·4 | 28·5 | 42·6 | 56·7 | 7 28·52 | + 0·36 | +60·32 | +60·29 | 14 8 29·17 |
|  | Venus 1 Limb | 41·9 | 56·2 | 10·6 | 24·9 | 39·3 | 20 10·58 | + 0·61 | ......... | +60·36 | 15 21 11·55 |
|  | α Coronæ Borealis | 31·2 | 46·1 | 1·1 | 16·1 | 31·0 | 27 1·10 | + 0·30 | +60·34 | +60·36 | 15 28 1·76 |
|  | δ Ursæ Minoris | ...... | ...... | 1·5 | 45·5 | 29·0 | 22 1·19 | − 5·47 | ......... | +60·53 | 18 22 56·25 |
|  | Saturn 1 Limb Ring | ...... | 53·1 | ...... | 21·9 | ...... | 34 7·50 | + 0·62 | ......... | +60·54 | 18 35 8·66 |
|  | Saturn 2 Limb Ring | 41·4 | ...... | 10·3 | ...... | 39·2 | 34 10·30 | + 0·62 | ......... | +60·54 | 18 35 11·46 |
|  | β Lyræ | 44·6 | 0·5 | 16·3 | 32·3 | 48·1 | 43 16·36 | + 0·26 | +60·63 | +60·55 | 18 44 17·17 |
|  | Jupiter 1 Limb | ...... | 50·4 | ...... | 19·6 | ...... | 58 5·00 | + 0·62 | ......... | +60·56 | 18 59 6·18 |
|  | Jupiter 2 Limb | 38·7 | ...... | 7·8 | ...... | 36·9 | 58 7·80 | + 0·62 | ......... | +60·56 | 18 59 8·98 |
|  | λ Ursæ Minoris | 45·0 | 43·5 | 44·0 | 45·0 | 43·0 | 18 44·10 | −16·98 | ......... | +60·62 | 20 19 27·74 |
|  | α Cygni | 27·8 | 46·4 | 5·1 | 23·9 | 42·6 | 35 5·16 | + 0·14 | ......... | +60·64 | 20 36 5·94 |
|  | 61 Cygni, preceding | ...... | 35·2 | ...... | 9·0 | ...... | 58 52·10 | + 0·20 | ......... | +60·66 | 20 59 52·96 |
|  | 61 Cygni, following | 19·8 | ...... | 53·6 | ...... | 27·3 | 58 53·57 | + 0·20 | ......... | +60·66 | 20 59 54·43 |
|  | ζ Cygni | 44·8 | 0·2 | 15·6 | 31·0 | 46·2 | 5 15·56 | + 0·29 | +60·59 | +60·67 | 21 6 16·52 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Sept. 30 | ξ Cephei, following | 16·5 | 46·4 | 16·7 | 47·0 | 17·2 | 58 16·76 | − 0·24 | ……… | +60·71 | 21 59 17·23 |
|  | Moon 2 Limb | 47·9 | 1·8 | 15·8 | 29·5 | 43·3 | 53 15·66 | + 0·46 | ……… | +61·32 | 9 54 17·44 |
|  | α Leonis | 30·6 | 44·3 | 57·8 | 11·6 | 25·1 | 58 57·88 | + 0·40 | +61·31 | +61·33 | 9 59 59·61 |
|  | Mars 2 Limb | 36·7 | 50·2 | 3·7 | 17·2 | 30·8 | 34 3·72 | + 0·42 | ……… | +61·36 | 10 35 5·50 |
| Oct. 1 | α Aquarii | 15·2 | 28·4 | 42·0 | 55·3 | 8·6 | 56 41·90 | + 0·51 | +61·85 | +61·80 | 21 57 44·21 |
|  | A.S.C. 2650 | 34·1 | 51·2 | 8·2 | 25·1 | 42·2 | 6 8·16 | + 0·22 | ……… | +61·81 | 22 7 10·19 |
|  | 3 Lacertæ | 41·1 | 2·5 | 23·8 | 45·0 | 6·2 | 16 23·72 | + 0·07 | ……… | +61·82 | 22 17 25·61 |
|  | ζ Pegasi | 10·2 | 23·6 | 37·1 | 50·6 | 4·1 | 32 37·12 | + 0·44 | +61·74 | +61·83 | 22 33 39·39 |
| Oct. 3 | ε Leonis | 21·1 | 35·8 | 50·4 | 4·9 | 19·6 | 35 50·36 | + 0·36 | +64·50 | +64·52 | 9 36 55·24 |
|  | α Leonis | 27·4 | 41·1 | 54·6 | 8·4 | 21·9 | 58 54·68 | + 0·43 | +64·54 | +64·53 | 9 59 59·61 |
|  | Mars 2 Limb | 37·6 | 51·2 | 4·5 | 18·2 | 31·6 | 41 4·62 | + 0·46 | ……… | +64·55 | 10 42 9·63 |
| Oct. 4 | Sun 1 Limb | 15·3 | 28·6 | 41·9 | 55·3 | 8·6 | 37 41·94 | + 0·61 | ……… | +64·58 | 12 38 47·13 |
|  | Sun 2 Limb | 24·0 | 37·3 | 50·7 | 4·2 | 17·4 | 39 50·72 | + 0·61 | ……… | +64·58 | 12 40 55·91 |
|  | α Ursæ Minoris S.P. | 45·0 | 2·5 | 22·0 | 42·5 | 0·5 | 2 22·50 | +14·75 | ……… | +64·59 | 13 3 41·84 |
|  | α Bootis | 55·9 | 10·1 | 24·1 | 38·2 | 52·3 | 7 24·12 | + 0·45 | +64·62 | +64·61 | 14 8 29·18 |
|  | α Coronæ Borealis | 27·0 | 41·8 | 56·7 | 11·6 | 26·7 | 26 56·76 | + 0·39 | +64·54 | +64·63 | 15 28 1·78 |
|  | Venus 1 Limb | 28·9 | 43·3 | 57·8 | 12·2 | 26·7 | 36 57·78 | + 0·73 | ……… | +64·64 | 15 38 3·15 |
|  | δ Ursæ Minoris | 28·5 | 12·0 | 56·0 | 40·0 | 23·5 | 21 56·00 | − 5·74 | ……… | +64·67 | 18 22 54·93 |
|  | α Lyræ | 58·4 | 15·4 | 32·3 | 49·4 | 6·4 | 30 32·38 | + 0·29 | +64·71 | +64·68 | 18 31 37·35 |
|  | Saturn 1 Limb Ring | …… | 23·5 | …… | 52·3 | …… | 34 37·90 | + 0·73 | ……… | +64·68 | 18 35 43·31 |
|  | Saturn 2 Limb Ring | 11·6 | …… | 40·5 | …… | 9·4 | 34 40·50 | + 0·73 | ……… | +64·68 | 18 35 45·91 |
|  | β Lyræ | 40·5 | 56·3 | 12·1 | 28·0 | 43·8 | 43 12·14 | + 0·34 | +64·68 | +64·68 | 18 44 17·16 |
|  | Jupiter 1 Limb | …… | 2·2 | …… | 31·0 | …… | 59 16·60 | + 0·74 | ……… | +64·69 | 19 0 22·03 |
|  | Jupiter 2 Limb | 50·7 | …… | 19·7 | …… | 48·5 | 59 19·63 | + 0·74 | ……… | +64·69 | 19 0 25·06 |
|  | 61 Cygni, preceding | 13·9 | …… | 47·7 | …… | 21·4 | 58 47·67 | + 0·29 | ……… | +64·72 | 20 59 52·68 |
|  | 61 Cygni, following | …… | 32·2 | …… | 5·9 | …… | 58 49·05 | + 0·29 | ……… | +64·72 | 20 59 54·06 |
|  | α Pegasi | 25·4 | 39·0 | 52·8 | 6·4 | 20·1 | 55 52·74 | + 0·49 | +64·79 | +64·79 | 22 56 58·02 |
|  | Uranus | 59·2 | 12·4 | 25·8 | 39·1 | 52·3 | 44 25·76 | + 0·60 | ……… | +64·81 | 23 45 31·17 |
| Oct. 6 | (a)<br>Sun 1 Limb | 31·0 | 44·2 | 57·6 | 10·8 | 24·3 | 45 57·58 | + 0·51 | ……… | + 6·60 | 12 46 4·69 |
|  | Sun 2 Limb | 40·0 | 53·2 | 6·5 | 20·0 | 33·4 | 48 6·62 | + 0·51 | ……… | + 6·60 | 12 48 13·73 |
|  | α Ursæ Minoris S.P. | …… | 1·5 | …… | 40·0 | …… | 3 20·53 | +14·32 | ……… | + 6·61 | 13 3 41·46 |
|  | α Bootis | 53·9 | 8·0 | 22·2 | 36·3 | 50·5 | 8 22·18 | + 0·35 | + 6·65 | + 6·65 | 14 8 29·18 |
|  | δ Ursæ Minoris | 24·5 | 8·5 | 52·5 | 36·5 | 20·5 | 22 52·50 | − 5·74 | ……… | + 6·79 | 18 22 53·55 |
|  | α Lyræ | 56·3 | 13·2 | 20·2 | 47·3 | 4·3 | 31 30·26 | + 0·19 | + 6·88 | + 6·80 | 18 31 37·25 |
|  | ζ Aquilæ | 37·5 | 51·2 | 4·7 | 18·4 | 32·1 | 58 4·78 | + 0·39 | + 6·71 | + 6·81 | 18 58 11·98 |
|  | λ Ursæ Minoris | 30·5 | 29·0 | 30·0 | 28·5 | 32·0 | 19 30·00 | −17·65 | ……… | + 6·85 | 20 19 19·20 |
|  | α Cygni | 21·4 | 39·9 | 58·7 | 17·5 | 36·0 | 35 58·70 | + 0·13 | ……… | + 6·86 | 20 36 5·69 |
|  | ζ Cygni | 38·8 | 53·8 | 9·1 | 24·4 | 39·8 | 6 9·18 | + 0·28 | + 6·88 | + 6·88 | 21 6 16·34 |
|  | 6 Cephei | 0·3 | 30·8 | 1·4 | 31·9 | 2·3 | 16 1·34 | − 0·27 | ……… | + 6·89 | 21 16 7·96 |
|  | τ Cephei | 12·2 | 52·0 | 32·0 | 11·9 | 51·8 | 39 31·98 | − 0·56 | ……… | + 6·90 | 21 39 38·32 |
|  | ξ Cephei | 9·7 | 39·8 | 10·0 | 40·3 | 10·6 | 59 10·08 | − 0·26 | ……… | + 6·91 | 21 59 16·73 |
|  | 3 Lacertæ | 35·9 | 57·0 | 18·2 | 39·7 | 0·8 | 17 18·32 | + 0·03 | ……… | + 6·92 | 22 17 25·27 |
| Oct. 7 | Sun 1 Limb | …… | 22·5 | 35·8 | 49·1 | 2·6 | 49 35·81 | + 0·45 | ……… | + 7·70 | 12 49 43·96 |
|  | Sun 2 Limb | 18·1 | 31·5 | 45·0 | 58·3 | 11·5 | 51 44·88 | + 0·45 | ……… | + 7·70 | 12 51 53·03 |
|  | α Ursæ Minoris S.P. | 43·0 | …… | 20·0 | 38·5 | …… | 3 20·41 | +13·40 | ……… | + 7·72 | 13 3 41·53 |
|  | α Bootis | 52·8 | 6·9 | 21·0 | 35·2 | 49·2 | 8 21·02 | + 0·29 | + 7·86 | + 7·78 | 14 8 29·09 |
|  | α Coronæ Borealis | 23·8 | 38·6 | 53·7 | 8·6 | 23·5 | 27 53·64 | + 0·24 | + 7·77 | + 7·86 | 15 28 1·74 |
|  | δ Ursæ Minoris | 22·5 | 6·5 | 51·0 | 35·0 | 18·5 | 22 50·70 | − 5·39 | ……… | + 8·02 | 18 22 53·33 |
|  | Saturn 1 Limb Ring | 36·2 | …… | 5·0 | …… | 33·6 | 36 4·93 | + 0·54 | ……… | + 8·03 | 18 36 13·50 |
|  | Saturn 2 Limb Ring | …… | 53·2 | …… | 21·9 | …… | 36 7·55 | + 0·54 | ……… | + 8·03 | 18 36 16·12 |
|  | β Lyræ | 37·2 | 52·9 | 8·9 | 24·8 | 40·5 | 44 8·86 | + 0·20 | + 8·03 | + 8·04 | 18 44 17·10 |
|  | ζ Aquilæ | 36·1 | 49·6 | 3·4 | 17·1 | 30·8 | 58 3·40 | + 0·33 | + 8·13 | + 8·05 | 18 58 11·78 |

(a) Clock put forward one minute on October 5.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 7 | Jupiter 1 Limb | 49·2 | …… | 18·1 | …… | 47·2 | 1 18·17 | + 0·55 | ……… | + 8·06 | 19 1 26·78 |
| | Jupiter 2 Limb | …… | 6·7 | …… | 35·8 | …… | 1 21·25 | + 0·55 | ……… | + 8·06 | 19 1 29·86 |
| | λ Ursæ Minoris | 29·5 | 29·5 | 26·5 | 26·0 | 24·5 | 19 27·20 | − 16·61 | ……… | + 8·13 | 20 19 18·72 |
| | 61 Cygni, preceding | …… | 27·7 | …… | 1·2 | …… | 59 44·45 | + 0·14 | ……… | + 8·16 | 20 59 52·75 |
| | 61 Cygni, following | 12·3 | …… | 45·8 | …… | 19·6 | 59 45·90 | + 0·14 | ……… | + 8·16 | 20 59 54·20 |
| | ζ Cygni | 37·4 | 52·8 | 8·1 | 23·4 | 38·6 | 6 8·06 | + 0·23 | + 8·04 | + 8·17 | 21 6 16·46 |
| | 6 Cephei | 59·1 | 29·6 | 0·1 | 30·6 | 1·0 | 16 0·08 | − 0·30 | ……… | + 8·18 | 21 16 7·96 |
| | μ Cygni, preceding | 30·0 | 45·1 | 0·1 | 15·2 | 30·3 | 37 0·14 | + 0·24 | ……… | + 8·20 | 21 37 8·58 |
| | 32 Aquarii | 8·8 | 22·1 | 35·4 | 48·8 | 2·0 | 56 35·42 | + 0·42 | ……… | + 8·21 | 21 56 44·05 |
| | Groombridge 3707 pr. | 18·0 | 54·5 | 32·0 | 8·5 | 45·2 | 3 31·64 | − 2·05 | ……… | + 8·22 | 22 3 37·81 |
| | 3 Lacertæ | 34·8 | 55·9 | 17·1 | 38·5 | 59·8 | 17 17·22 | − 0·01 | ……… | + 8·23 | 22 17 25·44 |
| | A.S.C. 2734, follow. | 15·7 | 42·6 | 10·0 | 37·3 | 4·6 | 45 10·04 | − 0·19 | ……… | + 8·25 | 22 45 18·10 |
| | Piazzi XXII. 295 | 33·0 | 30·0 | 28·0 | 25·5 | 22·5 | 55 27·80 | − 2·61 | ……… | + 8·27 | 22 55 33·46 |
| | Uranus | 30·8 | 44·1 | 57·5 | 10·9 | 24·0 | 44 57·46 | + 0·42 | ……… | + 8·30 | 23 45 6·18 |
| | Mars 2 Limb | 55·2 | 8·6 | 21·9 | 35·4 | 48·9 | 51 22·00 | + 0·36 | ……… | + 8·88 | 10 51 31·24 |
| Oct. 8 | Sun 1 Limb | 47·5 | 0·7 | 14·1 | 27·6 | 41·1 | 53 14·20 | + 0·44 | ……… | + 8·98 | 12 53 23·62 |
| | Sun 2 Limb | 56·5 | 10·1 | 23·5 | 36·8 | 50·2 | 55 23·42 | + 0·44 | ……… | + 8·98 | 12 55 32·84 |
| | α Ursæ Minoris S.P. | 41·5 | …… | 19·0 | 38·5 | 57·5 | 3 19·59 | + 12·89 | ……… | + 8·98 | 13 3 41·46 |
| | α Bootis | 51·7 | 5·7 | 19·8 | 33·9 | 48·1 | 8 19·84 | + 0·29 | + 9·04 | + 9·02 | 14 8 29·15 |
| | Venus 1 Limb | 11·9 | 26·2 | 40·8 | 55·5 | 10·1 | 54 40·90 | + 0·55 | ……… | + 9·09 | 15 54 50·54 |
| | α Lyræ | 54·0 | 10·9 | 27·9 | 44·9 | 2·0 | 31 27·94 | + 0·15 | + 9·19 | + 9·19 | 18 31 37·28 |
| | Saturn 1 Limb Ring | …… | 0·2 | …… | 29·0 | …… | 36 14·60 | + 0·54 | ……… | + 9·20 | 18 36 24·34 |
| | Saturn 2 Limb Ring | 48·4 | …… | 17·2 | …… | 46·1 | 36 17·23 | + 0·54 | ……… | + 9·20 | 18 36 26·97 |
| | β Lyræ | 36·0 | 51·8 | 7·7 | 23·6 | 39·4 | 44 7·70 | + 0·20 | + 9·17 | + 9·21 | 18 44 17·11 |
| | ζ Aquilæ | 35·0 | 48·6 | 2·3 | 15·9 | 29·6 | 58 2·28 | + 0·33 | + 9·23 | + 9·22 | 18 58 11·83 |
| | Jupiter 1 Limb | …… | 25·8 | …… | 54·8 | …… | 1 40·30 | + 0·55 | ……… | + 9·22 | 19 1 50·07 |
| | Jupiter 2 Limb | 14·0 | …… | 43·0 | …… | 11·8 | 1 42·93 | + 0·55 | ……… | + 9·22 | 19 1 52·70 |
| | λ Ursæ Minoris | 30·0 | 29·0 | 26·0 | 26·0 | 24·5 | 19 27·10 | − 15·92 | ……… | + 9·28 | 20 19 20·46 |
| | 61 Cygni, preceding | 9·6 | …… | 43·1 | …… | 17·0 | 59 43·23 | + 0·16 | ……… | + 9·31 | 20 59 52·70 |
| | 61 Cygni, following | …… | 27·8 | …… | 1·5 | …… | 59 44·65 | + 0·16 | ……… | + 9·31 | 20 59 54·12 |
| | ζ Cygni | 36·2 | 51·5 | 6·8 | 22·0 | 37·3 | 6 6·76 | + 0·23 | ……… | + 9·32 | 21 6 16·31 |
| | 6 Cephei | 57·8 | 28·5 | 58·6 | 29·4 | 0·0 | 15 58·86 | − 0·27 | ……… | + 9·33 | 21 16 7·92 |
| | μ Cygni, preceding | 29·0 | 44·0 | 59·1 | 14·0 | 29·0 | 36 59·02 | + 0·24 | ……… | + 9·35 | 21 37 8·61 |
| | 23 Pegasi | 49·6 | 4·6 | 19·7 | 34·8 | 50·0 | 58 19·74 | + 0·24 | ……… | + 9·37 | 21 58 29·35 |
| | Groombridge 3707 pr. | 16·6 | 53·4 | 30·5 | 6·8 | 43·7 | 3 30·20 | − 1·95 | ……… | + 9·37 | 22 3 37·62 |
| | 1 Lacertæ | 26·4 | 43·0 | 59·7 | 16·4 | 32·9 | 8 59·68 | + 0·17 | ……… | + 9·38 | 22 9 9·23 |
| | 34 Pegasi | 2·8 | 15·9 | 29·3 | 42·6 | 56·0 | 18 29·32 | + 0·38 | ……… | + 9·39 | 22 18 39·09 |
| Oct. 10 | α Lyræ | 51·6 | 8·6 | 25·6 | 42·7 | 59·7 | 31 25·64 | + 0·11 | + 11·48 | + 11·48 | 18 31 37·23 |
| | α Cygni | 16·4 | 34·9 | 53·7 | 12·4 | 31·2 | 35 53·72 | + 0·05 | ……… | + 11·65 | 20 36 5·42 |
| | 61 Cygni, preceding | …… | 24·0 | …… | 57·7 | …… | 59 40·85 | + 0·12 | ……… | + 11·67 | 20 59 52·64 |
| | 61 Cygni, following | 8·7 | …… | 42·3 | …… | 15·9 | 59 42·30 | + 0·12 | ……… | + 11·67 | 20 59 54·09 |
| | ζ Cygni | 33·9 | 49·1 | 4·4 | 19·6 | 35·0 | 6 4·40 | + 0·20 | + 11·68 | + 11·68 | 21 6 16·28 |
| | κ Pegasi | 52·1 | 6·7 | 21·2 | 36·0 | 50·6 | 37 21·32 | + 0·22 | ……… | + 11·71 | 21 37 33·25 |
| | ξ Cephei, following | 4·8 | 35·1 | 5·2 | 35·4 | 5·5 | 59 5·20 | − 0·29 | ……… | + 11·73 | 21 59 16·64 |
| | 1 Lacertæ | 24·2 | 40·9 | 57·3 | 14·1 | 30·8 | 8 57·46 | + 0·12 | ……… | + 11·75 | 22 9 9·33 |
| | ι Piscium | 15·2 | 28·4 | 41·8 | 55·1 | 8·4 | 31 41·78 | + 0·34 | + 11·85 | + 11·85 | 23 31 53·97 |
| | Uranus | 2·9 | 16·4 | 29·7 | 43·0 | 56·3 | 44 29·66 | + 0·39 | ……… | + 11·86 | 23 44 41·91 |
| | Mars 2 Limb | 50·8 | 4·2 | 17·6 | 31·1 | 44·5 | 58 17·64 | + 0·33 | ……… | + 12·30 | 10 58 30·27 |
| | α Ursæ Minoris S.P. | …… | 58·5 | …… | 37·0 | 55·0 | 3 17·30 | + 12·84 | ……… | + 12·39 | 13 3 42·53 |
| Oct. 11 | Sun 1 Limb | 45·4 | 58·8 | 12·2 | 25·5 | 38·9 | 4 12·16 | + 0·52 | ……… | + 12·39 | 13 4 25·07 |
| | Sun 2 Limb | 55·0 | 8·6 | 21·9 | 35·2 | 48·6 | 6 21·86 | + 0·52 | ……… | + 12·39 | 13 6 34·77 |
| | α Bootis | 48·2 | 2·3 | 16·4 | 30·4 | 44·6 | 8 16·38 | + 0·35 | + 12·44 | + 12·44 | 14 8 29·17 |
| | Mercury 1 Limb | 12·6 | 26·8 | 40·8 | 54·7 | 8·8 | 36 40·74 | + 0·60 | ……… | + 12·46 | 14 36 53·80 |
| | α Coronæ Borealis | 19·0 | 33·8 | 48·8 | 3·8 | 18·7 | 27 48·82 | + 0·30 | + 12·49 | + 12·50 | 15 28 1·62 |
| | Venus 1 Limb | 37·8 | 52·1 | 7·1 | 21·7 | 36·3 | 7 7·00 | + 0·64 | ……… | + 12·53 | 16 7 20·17 |
| | δ Ursæ Minoris | 15·0 | 59·5 | 44·0 | 28·0 | 11·5 | 22 43·60 | − 5·70 | ……… | + 12·69 | 18 22 50·59 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 11 | Saturn 1 Limb Ring | 17·2 | ...... | 45·9 | ...... | 14·8 | 36 45·97 | + 0·63 | ......... | +12·70 | 18 36 59·30 |
| | Saturn 2 Limb Ring | ...... | 34·1 | ...... | 3·1 | ...... | 36 48·60 | + 0·63 | ......... | +12·70 | 18 37 1·93 |
| | β Lyræ | 32·2 | 48·1 | 4·0 | 19·8 | 35·8 | 44 3·98 | + 0·26 | +12·76 | +12·71 | 18 44 16·95 |
| | ζ Aquilæ | 31·4 | 44·9 | 58·7 | 12·2 | 25·9 | 57 58·62 | + 0·39 | +12·78 | +12·72 | 18 58 11·73 |
| | π Sagittarii | 43·8 | 58·1 | 12·2 | 26·6 | 40·9 | 0 12·32 | + 0·61 | ......... | +12·73 | 19 0 25·66 |
| | Jupiter 1 Limb | 21·1 | ...... | 50·1 | ...... | 18·9 | 2 50·03 | + 0·63 | ......... | +12·73 | 19 3 3·39 |
| | Jupiter 2 Limb | ...... | 38·6 | ...... | 7·5 | ...... | 2 53·05 | + 0·63 | ......... | +12·73 | 19 3 6·41 |
| | δ Aquilæ | 55·5 | 8·8 | 22·1 | 35·4 | 48·6 | 17 22·08 | + 0·46 | +12·61 | +12·74 | 19 17 35·28 |
| | 52 Sagittarii | 26·4 | 41·1 | ...... | 10·5 | 25·3 | 26 55·83 | + 0·65 | ......... | +12·75 | 19 27 9·23 |
| | Moon 1 Limb | 40·7 | 55·2 | 10·0 | 24·8 | 39·2 | 40 9·98 | + 0·61 | ......... | +12·77 | 19 40 23·36 |
| | 33 Cygni | 44·8 | 8·6 | 32·4 | 56·1 | 20·1 | 9 32·40 | − 0·06 | ......... | +12·80 | 20 9 45·14 |
| | $\beta^2$ Capricorni | ...... | 44·4 | 58·3 | 12·1 | 26·0 | 11 58·31 | + 0·58 | ......... | +12·80 | 20 12 11·69 |
| | ϱ Capricorni | 13·4 | 27·3 | 41·1 | 55·2 | 9·0 | 19 41·20 | + 0·60 | ......... | +12·82 | 20 19 54·62 |
| | ϰ Pegasi | 50·8 | 5·3 | 20·1 | 34·8 | 49·4 | 37 20·08 | + 0·32 | ......... | +12·89 | 21 37 33·29 |
| | Groombridge 3707 pr. | 12·0 | 48·6 | 26·0 | 3·4 | 39·2 | 3 25·84 | − 2·14 | ......... | +12·94 | 22 3 36·64 |
| | 34 Pegasi | 59·1 | 12·5 | 25·8 | 39·2 | 52·5 | 18 25·82 | + 0·45 | ......... | +12·96 | 22 18 39·23 |
| | Piazzi XXII. 295 | 27·0 | 24·5 | 22·0 | 10·0 | 18·0 | 55 22·30 | − 2·75 | ......... | +13·00 | 22 55 32·55 |
| | Uranus | ...... | 7·3 | 20·5 | 33·7 | 47·0 | 44 20·48 | + 0·49 | ......... | +13·05 | 23 44 34·02 |
| | Mars 2 Limb | 8·7 | 22·1 | 35·5 | 49·1 | 2·4 | 0 35·56 | + 0·43 | ......... | +13·74 | 11 0 49·73 |
| | α Ursæ Minoris S.P. | 38·0 | 58·0 | 16·5 | ...... | 55·0 | 3 17·02 | +14·32 | ......... | +13·83 | 13 3 45·17 |
| Oct. 12 | Sun 1 Limb | 25·6 | 39·1 | 52·4 | 5·8 | 19·2 | 7 52·42 | + 0·35 | ......... | +13·83 | 13 8 6·60 |
| | Sun 2 Limb | 35·5 | 49·0 | 2·4 | 15·8 | 29·3 | 10 2·40 | + 0·35 | ......... | +13·83 | 13 10 16·58 |
| | α Bootis | 46·8 | 0·9 | 15·0 | 29·1 | 43·2 | 8 15·00 | + 0·23 | +13·94 | +13·86 | 14 8 29·09 |
| | α Coronæ Borealis | 17·7 | 32·6 | 47·6 | 2·6 | 17·5 | 27 47·60 | + 0·18 | +13·82 | +13·90 | 15 28 1·68 |
| | Venus 1 Limb | 44·7 | 59·6 | 14·2 | 28·9 | 43·6 | 11 14·20 | + 0·45 | ......... | +13·92 | 16 11 28·57 |
| | Saturn 1 Limb Ring | ...... | 42·8 | ...... | 11·8 | ...... | 36 57·30 | + 0·44 | ......... | +14·00 | 18 37 11·74 |
| | Saturn 2 Limb Ring | 30·9 | ...... | 59·8 | ...... | 28·6 | 36 59·77 | + 0·44 | ......... | +14·00 | 18 37 14·21 |
| | β Lyræ | 31·1 | 46·8 | 2·8 | 18·7 | 34·6 | 44 2·80 | + 0·14 | +14·04 | +14·01 | 18 44 16·95 |
| | ζ Aquilæ | 30·1 | 43·8 | 57·5 | 11·1 | 24·8 | 57 57·46 | + 0·25 | +14·06 | +14·02 | 18 58 11·73 |
| | Jupiter 1 Limb | ...... | 0·4 | ...... | 29·3 | ...... | 3 14·85 | + 0·44 | ......... | +14·02 | 19 3 29·31 |
| | Jupiter 2 Limb | 48·8 | ...... | 17·7 | ...... | 46·6 | 3 17·70 | + 0·44 | ......... | +14·02 | 19 3 32·16 |
| | 33 Cygni | 43·7 | 7·5 | 31·4 | 55·2 | 18·9 | 9 31·34 | − 0·11 | ......... | +14·06 | 20 9 45·29 |
| | $\beta^2$ Capricorni | 29·6 | 43·3 | 57·1 | 10·9 | 24·6 | 11 57·10 | + 0·40 | ......... | +14·06 | 20 12 11·56 |
| | Moon 1 Limb | 24·7 | 38·8 | 53·0 | 7·3 | 21·6 | 30 53·08 | + 0·41 | ......... | +14·07 | 20 31 7·56 |
| | θ Capricorni | 25·4 | 39·2 | 53·2 | 7·3 | 21·2 | 56 53·26 | + 0·41 | ......... | +14·08 | 20 57 7·75 |
| | 29 Capricorni | 21·8 | 35·6 | 49·4 | 3·3 | 17·0 | 6 49·42 | + 0·41 | ......... | +14·09 | 21 7 3·92 |
| | β Aquarii | 37·2 | 50·4 | 3·8 | 17·2 | 30·5 | 23 3·82 | + 0·35 | +14·11 | +14·10 | 21 23 18·27 |
| | ϰ Pegasi | 49·8 | 4·2 | 18·8 | 33·5 | 48·1 | 37 18·88 | + 0·19 | ......... | +14·11 | 21 37 33·18 |
| | Groombridge 3707 pr. | 11·0 | 47·4 | 25·0 | 1·5 | 37·6 | 3 24·50 | − 1·79 | ......... | +14·12 | 22 3 36·83 |
| | 34 Pegasi | 58·0 | 11·3 | 24·5 | 37·8 | 51·1 | 18 24·54 | + 0·31 | ......... | +14·12 | 22 18 38·97 |
| | Piazzi XXII. 295 | 25·0 | 23·0 | 21·0 | 18·8 | 15·5 | 55 20·66 | − 2·29 | ......... | +14·14 | 22 55 32·51 |
| | Uranus | 44·6 | 58·0 | 11·3 | 24·7 | 38·0 | 44 11·32 | + 0·34 | ......... | +14·17 | 23 44 25·83 |
| | α Ursæ Minoris S.P. | 37·0 | 56·5 | 16·0 | ...... | 52·0 | 3 15·52 | +11·54 | ......... | +14·83 | 13 3 41·89 |
| Oct. 13 | Sun 1 Limb | 6·4 | 19·8 | 33·2 | 46·5 | 59·9 | 11 33·16 | + 0·44 | ......... | +14·84 | 13 11 48·44 |
| | Sun 2 Limb | 16·4 | 29·8 | 43·3 | 56·8 | 10·1 | 13 43·28 | + 0·44 | ......... | +14·84 | 13 13 58·56 |
| | α Bootis | 45·8 | 59·9 | 14·0 | 28·2 | 42·2 | 8 14·02 | + 0·29 | +14·86 | +14·86 | 14 8 29·17 |
| | Venus 1 Limb | 51·0 | 5·7 | 20·3 | 35·0 | 49·7 | 15 20·34 | + 0·56 | ......... | +14·91 | 16 15 35·81 |
| | α Lyræ | 48·0 | 4·9 | 22·0 | 39·0 | 56·1 | 31 22·00 | + 0·15 | +15·01 | +14·97 | 18 31 37·12 |
| | Saturn 1 Limb Ring | 40·2 | ...... | 9·1 | ...... | 37·9 | 37 9·07 | + 0·55 | ......... | +14·97 | 18 37 24·59 |
| | Saturn 2 Limb Ring | ...... | 57·3 | ...... | 26·3 | ...... | 37 11·80 | + 0·55 | ......... | +14·97 | 18 37 27·32 |
| | β Lyræ | 30·2 | 45·9 | 1·8 | 17·7 | 33·6 | 44 1·84 | + 0·20 | +14·91 | +14·98 | 18 44 17·02 |
| | ζ Aquilæ | 29·0 | 42·6 | 56·4 | 10·0 | 23·6 | 57 56·32 | + 0·34 | +15·09 | +14·98 | 18 58 11·64 |
| | Jupiter 1 Limb | 11·4 | ...... | 40·2 | ...... | 9·2 | 3 40·27 | + 0·55 | ......... | +14·99 | 19 3 55·81 |
| | Jupiter 2 Limb | ...... | 28·7 | ...... | 57·7 | ...... | 3 43·20 | + 0·55 | ......... | +14·99 | 19 3 58·74 |
| | A.S.C. 2493 | 3·4 | 27·0 | 51·0 | 15·2 | 38·8 | 51 51·08 | − 0·08 | ......... | +15·05 | 20 52 6·05 |
| | τ Cephei | 3·2 | 43·2 | 23·0 | 3·0 | 43·0 | 39 23·08 | − 0·53 | ......... | +15·07 | 21 39 37·62 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 13 | ξ Cephei, following··· | 1·3 | 31·5 | 1·6 | 31·7 | 2·0 | 59 1·62 | − 0·24 | ········· | +15·08 | 21 59 16·46 |
| | A.S.C. 2673 ········· | 48·8 | 2·1 | 15·3 | 28·7 | 42·0 | 16 15·38 | + 0·42 | ········· | +15·09 | 22 16 30·89 |
| | 31 Cephei ············· | 10·8 | 55·8 | 41·6 | 26·8 | 11·5 | 31 41·30 | − 0·65 | ········· | +15·10 | 22 31 55·75 |
| | ι Cephei ················ | 49·8 | 21·8 | 53·8 | 25·6 | 57·8 | 43 53·76 | − 0·31 | ········· | +15·10 | 22 44 8·55 |
| | A.S.C. 2749 ········· | 3·0 | 16·2 | 29·5 | 42·8 | 56·2 | 53 29·54 | + 0·39 | ········· | +15·11 | 22 53 45·04 |
| | 83 Aquarii ··········· | 17·1 | 30·5 | 43·9 | 57·5 | 10·8 | 56 43·96 | + 0·45 | ·· ······ | +15·11 | 22 56 59·52 |
| | π Cephei ················ | 4·8 | 54·3 | 44·2 | 34·0 | 23·8 | 2 44·22 | − 0·77 | ········· | +15·11 | 23 2 58·56 |
| | 94 Aquarii ··········· | 9·2 | 22·8 | 36·6 | 50·5 | 4·1 | 10 36·64 | + 0·48 | ········· | +15·12 | 23 10 52·24 |
| | A.S.C. 2792 ········· | 47·9 | 1·1 | 14·5 | 27·8 | 41·0 | 15 14·46 | + 0·41 | ········· | +15·12 | 23 15 29·99 |
| | $\chi^2$ Piscium ············· | 31·5 | 44·8 | 58·1 | 11·3 | 24·6 | 18 58·06 | + 0·41 | ········· | +15·12 | 23 19 13·59 |
| | A.S.C. 2805 ········· | 44·0 | 57·4 | 10·8 | 24·1 | 37·5 | 21 10·76 | + 0·44 | ········· | +15·12 | 23 21 26·32 |
| | A.S.C. 2809 ········· | 22·6 | 36·1 | 49·8 | 3·3 | 17·0 | 23 49·76 | + 0·47 | ········· | +15·12 | 23 24 5·35 |
| | A.S.C. 2825 ········· | 19·8 | 33·4 | 47·1 | 0·8 | 14·2 | 32 47·06 | + 0·47 | ········· | +15·13 | 23 33 2·66 |
| | A.S.C. 2842 ········· | 47·4 | 0·8 | 14·1 | 27·5 | 40·9 | 40 14·14 | + 0·44 | ········· | +15·13 | 23 40 29·71 |
| | Uranus ················· | 35·8 | 49·1 | 2·5 | 15·8 | 29·1 | 44 2·46 | + 0·42 | ········· | +15·13 | 23 44 18·01 |
| | A.S.C. 2868 ········· | 32·1 | 59·2 | 26·0 | 52·5 | 19·7 | 53 25·90 | − 0·15 | ········· | +15·14 | 23 53 40·89 |
| | 3 Ceti ···················· | 46·5 | 0·0 | 13·6 | 27·2 | 40·7 | 56 13·60 | + 0·47 | ········· | +15·14 | 23 56 29·21 |
| | γ Pegasi ················ | 27·9 | 41·7 | 55·5 | 9·2 | 22·9 | 4 55·44 | + 0·33 | +15·10 | +15·14 | 0 5 10·91 |
| | Mars 2 Limb ········· | 44·2 | 57·5 | 11·0 | 24·4 | 37·8 | 5 10·98 | + 0·37 | ········· | +15·83 | 11 5 27·18 |
| | α Ursæ Minoris S.P. | ······ | 53·5 | ······ | 33·0 | 52·0 | 3 13·24 | +12·86 | ········· | +15·95 | 13 3 42·05 |
| Oct. 14 | α Bootis ················ | 44·8 | 58·8 | 12·9 | 27·0 | 41·2 | 8 12·94 | + 0·21 | +16·01 | +16·01 | 14 8 29·16 |
| | α Hydræ················ | 7·8 | 21·1 | 34·6 | 48·1 | 1·6 | 19 34·64 | + 0·36 | +16·99 | +16·91 | 9 19 51·91 |
| | ε Leonis ················ | 9·2 | 23·8 | 38·4 | 53·0 | 7·6 | 36 38·40 | + 0·18 | +16·89 | +16·93 | 9 36 55·51 |
| | α Leonis ················ | 15·5 | 29·1 | 42·7 | 56·3 | 10·0 | 59 42·72 | + 0·26 | +16·93 | +16·94 | 9 59 59·92 |
| | Mars 2 Limb ········· | 1·5 | 14·8 | 28·3 | 41·7 | 55·2 | 7 28·30 | + 0·28 | ········· | +17·00 | 11 7 45·58 |
| | α Ursæ Minoris S.P. | 34·5 | 55·0 | 13·5 | 33·0 | ······ | 3 13·83 | +12·36 | ········· | +17·08 | 13 3 43·27 |
| Oct. 15 | Sun 1 Limb············ | 29·6 | 42·9 | 56·4 | 10·0 | 23·5 | 18 56·48 | + 0·31 | ········· | +17·09 | 13 19 13·88 |
| | Mercury 1 Limb······ | 57·9 | 11·8 | 26·4 | 40·4 | 54·5 | 47 26·20 | + 0·37 | ········· | +17·13 | 14 47 43·70 |
| | α Coronæ Borealis ··· | 14·5 | 29·4 | 44·3 | 59·2 | 14·1 | 27 44·30 | + 0·12 | +17·15 | +17·16 | 15 28 1·58 |
| | δ Ursæ Minoris······· | 9·5 | 53·5 | 37·5 | 22·0 | 5·0 | 22 37·50 | − 4·77 | ········· | +17·28 | 18 22 50·01 |
| | β Lyræ················· | 27·8 | 43·7 | 59·6 | 15·4 | 31·2 | 43 59·54 | + 0·08 | +17·29 | +17·29 | 18 44 16·91 |
| | ζ Aquilæ··············· | 26·7 | 40·2 | 54·0 | 7·6 | 21·4 | 57 53·98 | + 0·21 | +17·52 | +17·30 | 18 58 11·49 |
| | 33 Cygni ··············· | 40·5 | 4·2 | 27·9 | 51·8 | 15·6 | 9 28·00 | − 0·17 | ········· | +17·35 | 20 9 45·18 |
| | ϰ Cephei ··············· | 48·5 | 48·0 | 48·5 | 48·5 | 48·5 | 13 48·40 | − 1·04 | ········· | +17·36 | 20 14 4·72 |
| | 9 Cephei ··············· | 31·2 | 59·0 | 26·6 | 54·2 | 22·0 | 33 26·60 | − 0·27 | ········· | +17·39 | 21 33 43·72 |
| | ε Pegasi ··············· | 45·0 | 58·4 | 11·8 | 25·2 | 38·8 | 36 11·84 | + 0·23 | +17·35 | +17·39 | 21 36 29·46 |
| | τ Cephei ··············· | 0·6 | 40·6 | 20·8 | 0·8 | 41·0 | 39 20·76 | − 0·56 | ········· | +17·39 | 21 39 37·59 |
| | ξ Cephei, following··· | 59·2 | 29·1 | 59·4 | 29·5 | 59·6 | 58 59·36 | − 0·32 | ········· | +17·41 | 21 59 16·45 |
| | Moon 1 Limb········· | 11·1 | 25·0 | 38·6 | 52·2 | 5·6 | 48 38·50 | + 0·28 | ········· | +17·46 | 22 48 56·24 |
| | α Pegasi ··············· | 12·8 | 26·5 | 40·3 | 54·1 | 7·8 | 56 40·30 | + 0·20 | +17·45 | +17·47 | 22 56 57·97 |
| Oct. 17 | ϱ Draconis ············· | 37·4 | 12·0 | 46·8 | 21·3 | 55·9 | 1 46·68 | − 0·44 | ········· | +19·42 | 20 2 5·66 |
| | $\alpha^2$ Capricorni ········· | 33·6 | 47·4 | 1·1 | 14·8 | 28·3 | 9 1·04 | + 0·33 | +19·49 | +19·42 | 20 9 20·79 |
| | ϰ Cephei ··············· | 45·2 | 45·0 | 45·0 | 45·6 | 45·8 | 13 45·32 | − 1·04 | ········· | +19·42 | 20 14 3·70 |
| | $o^1$ Capricorni ········· | 4·6 | ······ | 32·8 | ······ | 0·9 | 20 32·77 | + 0·37 | ········ | +19·43 | 20 20 52·57 |
| | $o^2$ Capricorni ········· | ······ | 20·0 | ······ | 48·2 | ······ | 20 34·10 | + 0·37 | ········· | +19·43 | 20 20 53·90 |
| | θ Cephei················ | 40·0 | 8·8 | 37·6 | 6·3 | 35·1 | 26 37·56 | − 0·29 | ········· | +19·43 | 20 26 56·70 |
| | η Cephei ··············· | 51·5 | 19·1 | 46·8 | 14·5 | 42·0 | 41 46·78 | − 0·27 | ········· | +19·44 | 20 42 5·95 |
| | ι Piscium··············· | 7·5 | 21·0 | 34·3 | 47·6 | 0·8 | 31 34·24 | + 0·25 | +19·46 | +19·49 | 23 31 53·98 |
| | α Andromedæ········ | 28·7 | 43·7 | 58·9 | 14·0 | 29·0 | 59 58·86 | + 0·12 | +19·50 | +19·50 | 0 0 18·48 |
| | γ Pegasi ··············· | ······ | 37·6 | 51·1 | 4·8 | 18·6 | 4 51·17 | + 0·21 | +19·49 | +19·50 | 0 5 10·88 |
| | Moon 1 Limb ········ | 58·9 | 12·8 | 26·4 | 40·1 | 53·8 | 17 26·40 | + 0·23 | ········· | +19·51 | 0 17 46·14 |
| | β Leonis ··············· | 14·3 | 28·1 | 41·8 | 55·6 | 9·5 | 40 41·86 | + 0·19 | +20·07 | +20·07 | 11 41 2·12 |
| Oct. 18 | Sun 1 Limb ·········· | 38·7 | 52·1 | 5·6 | 19·1 | 32·6 | 30 5·62 | + 0·42 | ········· | +20·10 | 13 30 26·14 |
| | Sun 2 Limb ·········· | 49·4 | 2·8 | 16·4 | 29·9 | 43·3 | 32 16·36 | + 0·42 | ········· | +20·10 | 13 32 36·88 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 18 | α Bootis | 40·5 | 54·7 | 8·8 | 22·9 | 37·0 | 8 8·78 | + 0·27 | +20·11 | +20·11 | 14 8 29·16 |
| | Mercury 1 Limb | 39·5 | ...... | 7·8 | 21·8 | 35·8 | 52 7·69 | + 0·48 | ......... | +20·12 | 14 52 28·29 |
| | α Aquarii | 57·0 | 10·4 | 23·6 | 36·8 | 50·1 | 57 23·58 | + 0·38 | +20·13 | +20·17 | 21 57 44·13 |
| | A.S.C. 2673 | 43·7 | 57·0 | 10·2 | 23·6 | 36·8 | 16 10·26 | + 0·38 | ......... | +20·17 | 22 16 30·81 |
| | ζ Pegasi | 51·7 | 5·0 | 18·5 | 32·0 | 45·5 | 33 18·54 | + 0·31 | +20·32 | +20·18 | 22 33 39·03 |
| | 77 Aquarii | 39·3 | 53·3 | 7·2 | 21·1 | 35·1 | 46 7·20 | + 0·47 | ......... | +20·19 | 22 46 27·86 |
| | A.S.C. 2749 | 57·8 | 11·0 | 24·5 | 37·7 | 51·0 | 53 24·40 | + 0·36 | ......... | +20·19 | 22 53 44·95 |
| | 83 Aquarii | 12·1 | 25·5 | 38·9 | 52·4 | 5·8 | 56 38·94 | + 0·42 | ......... | +20·19 | 22 56 59·55 |
| | π Cephei | 59·5 | 49·0 | 38·8 | 29·0 | 18·8 | 2 39·02 | − 0·81 | ......... | +20·19 | 23 2 58·40 |
| | 94 Aquarii | 4·2 | 17·8 | 31·6 | 45·4 | 59·0 | 10 31·60 | + 0·45 | ......... | +20·19 | 23 10 52·24 |
| | A.S.C. 2792 | 42·7 | 56·1 | 9·4 | 22·7 | 36·0 | 15 9·38 | + 0·38 | ......... | +20·19 | 23 15 29·95 |
| | 4 Cassiopeæ | 39·8 | 7·3 | 35·2 | 3·3 | 31·1 | 17 35·34 | − 0·22 | ......... | +20·19 | 23 17 55·31 |
| | A.S.C. 2805 | 39·3 | 52·5 | 5·7 | 19·0 | 32·5 | 21 5·80 | + 0·40 | ......... | +20·20 | 23 21 26·40 |
| | A.S.C. 2809 | 17·5 | 31·2 | 44·8 | 58·4 | 12·1 | 23 44·80 | + 0·44 | ......... | +20·20 | 23 24 5·44 |
| | ι Piscium | 6·7 | 20·0 | 33·4 | 46·8 | 0·1 | 31 33·40 | + 0·33 | +20·22 | +20·20 | 23 31 53·93 |
| | Uranus | 53·2 | 6·4 | 19·7 | 32·9 | 46·2 | 43 19·68 | + 0·39 | ......... | +20·20 | 23 43 40·27 |
| | A.S.C. 2868 | 27·1 | 53·9 | 20·8 | 47·6 | 14·4 | 53 20·76 | − 0·20 | ......... | +20·21 | 23 53 40·77 |
| | 3 Ceti | 41·3 | 54·9 | 8·4 | 22·0 | 35·7 | 56 8·46 | + 0·43 | ......... | +20·21 | 23 56 29·10 |
| | α Andromedæ | 28·0 | 43·1 | ...... | 13·2 | 28·3 | 59 58·15 | + 0·20 | +20·13 | +20·21 | 0 0 18·56 |
| | Mars 2 Limb | 9·9 | 23·3 | ...... | 50·0 | 3·2 | 16 36·60 | + 0·33 | ......... | +20·46 | 11 16 57·39 |
| Oct. 19 | Venus 1 Limb | 1·4 | 16·2 | 31·3 | 46·1 | 0·7 | 39 31·14 | + 0·68 | ......... | +20·61 | 16 39 52·43 |
| | β Lyræ | 24·1 | 40·1 | 56·0 | 11·8 | 27·7 | 43 55·94 | + 0·27 | +20·61 | +20·67 | 18 44 16·88 |
| | ζ Aquilæ | 23·2 | 36·8 | 50·5 | 4·1 | 17·9 | 57 50·50 | + 0·41 | +20·73 | +20·68 | 18 58 11·59 |
| | Jupiter 1 Limb | 59·1 | ...... | 28·1 | ...... | 56·9 | 6 28·03 | + 0·66 | ......... | +20·68 | 19 6 49·37 |
| | Jupiter 2 Limb | ...... | 16·4 | ...... | 45·5 | ...... | 6 30·95 | + 0·66 | ......... | +20·68 | 19 6 52·29 |
| | ϱ Draconis | 35·8 | 10·5 | 45·6 | 19·8 | 54·4 | 1 45·22 | − 0·41 | ......... | +20·71 | 20 2 5·52 |
| | $o^1$ Capricorni | ...... | 17·2 | ...... | 45·2 | ...... | 20 31·20 | + 0·63 | ......... | +20·71 | 20 20 52·54 |
| | $o^2$ Capricorni | 4·5 | ...... | 32·6 | ...... | 0·7 | 20 32·60 | + 0·63 | ......... | +20·71 | 20 20 53·94 |
| | θ Cephei | 38·7 | 7·5 | 36·2 | 5·0 | 33·8 | 26 36·24 | − 0·22 | ......... | +20·72 | 20 26 56·74 |
| | α Cygni | 7·0 | 25·7 | 44·4 | 3·1 | 21·9 | 35 44·42 | + 0·14 | ......... | +20·73 | 20 36 5·29 |
| | 21 Capricorni | 12·5 | 26·7 | 40·6 | 54·3 | 8·5 | 51 40·52 | + 0·63 | ......... | +20·74 | 20 52 1·89 |
| | A.S.C. 2842 | 41·7 | 55·0 | 8·4 | 21·8 | 35·1 | 40 8·40 | + 0·55 | ......... | +20·81 | 23 40 29·76 |
| | Uranus | 45·3 | 58·6 | 11·8 | 25·1 | 38·3 | 43 11·82 | + 0·52 | ......... | +20·81 | 23 43 33·15 |
| | 3 Ceti | 40·7 | 54·1 | 7·9 | 21·5 | 35·1 | 56 7·86 | + 0·58 | ......... | +20·82 | 23 56 29·26 |
| | α Andromedæ | 27·1 | 42·3 | 57·4 | 12·4 | 27·5 | 59 57·34 | + 0·31 | +20·83 | +20·82 | 0 0 18·47 |
| | γ Pegasi | 22·3 | 36·0 | 49·6 | 3·4 | 17·0 | 4 49·66 | + 0·41 | +20·80 | +20·82 | 0 5 10·89 |
| | α Ursæ Minoris | 55·5 | 15·5 | 36·0 | 55·0 | 13·5 | 3 35·10 | −13·93 | ......... | +20·85 | 1 3 42·02 |
| | η Piscium | 18·2 | 32·0 | 45·8 | 59·5 | 13·1 | 22 45·72 | + 0·41 | ......... | +20·86 | 1 23 6·99 |
| | Moon 2 Limb | 56·1 | 10·4 | 24·6 | 38·7 | 52·8 | 54 24·52 | + 0·39 | ......... | +20·87 | 1 54 45·78 |
| | $\theta^1$ Arietis | 36·5 | 50·7 | 4·5 | 18·8 | 32·6 | 9 4·62 | + 0·38 | ......... | +20·87 | 2 9 25·87 |
| | ν Arietis | 6·8 | 21·0 | 35·4 | 49·5 | 3·7 | 29 35·28 | + 0·36 | ......... | +20·88 | 2 29 56·52 |
| | Mars 2 Limb | 26·6 | 40·1 | 53·4 | 6·8 | 20·2 | 18 53·42 | + 0·46 | ......... | +20·96 | 11 19 14·84 |
| | α Ursæ Minoris S.P. | 27·5 | 45·0 | 5·5 | 25·0 | 43·5 | 3 5·30 | +14·97 | ......... | +21·00 | 13 3 41·27 |
| Oct. 20 | Sun 2 Limb | 19·8 | 33·2 | 46·6 | 0·1 | 13·7 | 39 46·68 | + 0·72 | ......... | +21·02 | 13 40 8·42 |
| | α Bootis | 39·4 | 53·5 | 7·6 | 21·7 | 35·8 | 8 7·60 | + 0·49 | +21·08 | +21·03 | 14 8 29·12 |
| | δ Ursæ Minoris | 5·5 | 50·0 | 33·0 | 17·5 | 1·0 | 22 33·40 | − 7·08 | ......... | +21·11 | 18 22 47·43 |
| | Saturn 1 Limb Ring | ...... | 28·4 | ...... | 57·2 | ...... | 38 42·80 | + 0·83 | ......... | +21·12 | 18 39 4·75 |
| | Saturn 2 Limb Ring | 16·5 | ...... | 45·4 | ...... | 14·2 | 38 45·37 | + 0·83 | ......... | +21·12 | 18 39 7·32 |
| | β Lyræ | 23·6 | 39·4 | 55·4 | 11·2 | 27·1 | 43 55·34 | + 0·36 | +21·10 | +21·12 | 18 44 16·82 |
| | ζ Aquilæ | 22·4 | 36·1 | 50·0 | 3·7 | 17·3 | 57 49·90 | + 0·54 | +21·19 | +21·13 | 18 58 11·57 |
| | Jupiter 1 Limb | ...... | 44·4 | ...... | 13·2 | ...... | 6 58·80 | + 0·84 | ......... | +21·13 | 19 7 20·77 |
| | Jupiter 2 Limb | 32·5 | ...... | 1·6 | ...... | 30·3 | 7 1·47 | + 0·84 | ......... | +21·13 | 19 7 23·44 |
| | 66 Draconis | 45·7 | 13·6 | 41·6 | 9·5 | 37·3 | 2 41·54 | − 0·18 | ......... | +21·16 | 20 3 2·52 |
| | $\alpha^2$ Capricorni | 31·6 | 45·3 | 59·0 | 12·6 | 26·2 | 8 58·94 | + 0·75 | +21·12 | +21·16 | 20 9 20·85 |
| | $o^1$ Capricorni | 2·8 | ...... | 30·9 | ...... | 58·9 | 20 30·87 | + 0·80 | ......... | +21·17 | 20 20 52·84 |
| | $o^2$ Capricorni | ...... | 17·8 | ...... | 46·0 | ...... | 20 31·90 | + 0·80 | ......... | +21·17 | 20 20 53·87 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 20 | η Cephei | 49·6 | 16·9 | 44·8 | 12·4 | 39·9 | 41 44·72 | − 0·18 | ......... | +21·18 | 20 42 5·72 |
|  | 21 Capricorni | 11·9 | 26·0 | 40·0 | 53·9 | 7·9 | 51 39·94 | + 0·79 | ......... | +21·18 | 20 52 1·91 |
|  | α Aquarii | 55·6 | 8·9 | 22·2 | 35·5 | 48·7 | 57 22·18 | + 0·66 | +21·22 | +21·22 | 21 57 44·06 |
|  | Groombridge 3707 pr. | 3·2 | 40·0 | 16·8 | 54·0 | 30·8 | 3 16·96 | − 2·61 | ......... | +21·22 | 22 3 35·57 |
|  | A.S.C. 2673 | 42·2 | 55·6 | 8·9 | 22·2 | 35·5 | 16 8·88 | + 0·67 | ......... | +21·23 | 22 16 30·78 |
|  | 31 Cephei | 5·6 | 50·2 | 35·0 | 20·0 | 5·0 | 31 35·16 | − 0·82 | ......... | +21·24 | 22 31 55·58 |
|  | ι Cephei | 44·0 | 15·6 | 47·4 | 19·2 | 51·0 | 43 47·44 | − 0·35 | ......... | +21·24 | 22 44 8·33 |
|  | Piazzi XXII. 295 | 18·5 | 15·5 | 13·5 | 11·0 | 8·0 | 55 13·30 | − 3·36 | ......... | +21·25 | 22 55 31·19 |
|  | 94 Aquarii | 2·8 | 16·5 | 30·1 | 44·0 | 57·7 | 10 30·22 | + 0·76 | ......... | +21·25 | 23 10 52·23 |
|  | A.S.C. 2792 | 41·5 | 54·8 | 8·1 | 21·4 | 34·7 | 15 8·10 | + 0·66 | ......... | +21·25 | 23 15 30·01 |
|  | $\chi^2$ Piscium | 25·1 | 38·4 | 51·7 | 5·1 | 18·3 | 18 51·72 | + 0·65 | ......... | +21·26 | 23 19 13·63 |
|  | A.S.C. 2805 | 37·9 | 51·1 | 4·4 | 17·8 | 31·1 | 21 4·46 | + 0·68 | ......... | +21·26 | 23 21 26·40 |
|  | A.S.C. 2809 | 16·1 | 29·8 | 43·5 | 57·0 | 10·6 | 23 43·40 | + 0·74 | ......... | +21·26 | 23 24 5·40 |
|  | A.S.C. 2825 | 13·5 | 27·0 | 40·6 | 54·2 | 7·9 | 32 40·64 | + 0·74 | ......... | +21·26 | 23 33 2·64 |
|  | A.S.C. 2842 | 41·0 | 54·4 | 7·9 | 21·2 | 34·6 | 40 7·82 | + 0·70 | ......... | +21·27 | 23 40 29·79 |
|  | Uranus | 37·4 | 50·6 | 4·1 | 17·4 | 30·7 | 42 4·04 | + 0·68 | ......... | +21·27 | 23 42 25·99 |
|  | 4 Ceti | 54·7 | 7·8 | 21·1 | 34·5 | 47·7 | 59 21·16 | + 0·68 | ......... | +21·28 | 23 59 43·12 |
|  | α Ursæ Minoris | 56·5 | 17·5 | 37·0 | 58·0 | 16·5 | 3 37·10 | −16·51 | ......... | +21·32 | 1 3 41·91 |
|  | $\theta^1$ Arietis | 36·0 | 49·9 | 4·0 | 18·1 | 32·0 | 9 4·00 | + 0·50 | ......... | +21·36 | 2 9 25·86 |
|  | ν Arietis | 6·2 | 20·4 | 34·6 | 48·9 | 3·1 | 29 34·64 | + 0·48 | ......... | +21·37 | 2 29 56·49 |
|  | Moon 2 Limb | 28·3 | 42·7 | 57·4 | 11·9 | 26·4 | 45 57·34 | + 0·49 | ......... | +21·38 | 2 46 19·21 |
|  | δ Arietis | 51·4 | 5·4 | 19·3 | 33·5 | 47·7 | 2 19·46 | + 0·50 | ......... | +21·40 | 3 2 41·36 |
|  | 64 Arietis | 13·5 | 28·0 | 42·6 | 57·3 | 11·9 | 14 42·66 | + 0·45 | ......... | +21·41 | 3 15 4·52 |
|  | α Ursæ Minoris S.P. | 24·0 | 42·5 | 2·0 | 21·5 | 42·0 | 3 2·40 | +17·85 | ......... | +21·62 | 13 3 41·87 |
| Oct. 21 | β Lyræ | 23·0 | 38·8 | 54·7 | 10·6 | 26·4 | 43 54·70 | + 0·34 | +21·71 | +21·75 | 18 44 16·79 |
|  | ζ Aquilæ | 22·0 | 35·7 | 49·3 | 3·0 | 16·6 | 57 49·32 | + 0·52 | +21·77 | +21·76 | 18 58 11·60 |
|  | Jupiter 1 Limb | 1·1 | ...... | 30·2 | ...... | 58·9 | 7 30·07 | + 0·80 | ......... | +21·76 | 19 7 52·63 |
|  | Jupiter 2 Limb | ...... | 18·2 | ...... | 47·2 | ...... | 7 32·70 | + 0·80 | ......... | +21·76 | 19 7 55·26 |
|  | ζ Pegasi | 49·7 | 3·3 | 16·8 | 30·2 | 43·6 | 33 16·72 | + 0·55 | +21·87 | +21·82 | 22 33 39·09 |
|  | α Andromedæ | 26·3 | 41·1 | 56·2 | 11·3 | 26·4 | 59 56·26 | + 0·40 | +21·81 | +21·86 | 0 0 18·52 |
|  | γ Pegasi | 21·2 | 34·8 | 48·5 | 2·2 | 15·9 | 4 48·52 | + 0·52 | +21·82 | +21·86 | 0 5 10·90 |
|  | α Ursæ Minoris S.P. | 23·5 | 43·0 | ...... | 23·0 | 40·5 | 3 2·43 | +17·15 | ......... | +22·27 | 13 3 41·85 |
| Oct. 22 | Sun 1 Limb | 41·0 | 54·5 | 8·1 | 21·7 | 35·2 | 45 8·10 | + 0·61 | ......... | +22·30 | 13 45 31·01 |
|  | Sun 2 Limb | 52·6 | 6·2 | 19·6 | 33·1 | 46·8 | 47 19·66 | + 0·61 | ......... | +22·30 | 13 47 42·57 |
|  | α Bootis | 38·2 | 52·3 | 6·5 | 20·6 | 34·8 | 8 6·48 | + 0·38 | +22·32 | +22·32 | 14 8 29·18 |
|  | δ Ursæ Minoris | 3·0 | 47·0 | 31·5 | 15·5 | 59·0 | 22 31·20 | − 6·58 | ......... | +22·36 | 18 22 46·98 |
|  | α Lyræ | 40·4 | 57·3 | 14·4 | 31·4 | 48·4 | 31 14·38 | + 0·19 | +22·37 | +22·36 | 18 31 36·93 |
|  | β Lyræ | 22·3 | 38·1 | 54·0 | 10·0 | 25·8 | 43 54·04 | + 0·26 | +22·46 | +22·36 | 18 44 16·66 |
|  | Jupiter 1 Limb | ...... | 47·7 | ...... | 16·7 | ...... | 8 2·20 | + 0·70 | ......... | +22·37 | 19 8 25·27 |
|  | Jupiter 2 Limb | 35·9 | ...... | 4·7 | ...... | 33·5 | 8 4·70 | + 0·70 | ......... | +22·37 | 19 8 27·77 |
|  | 66 Draconis | 44·7 | 12·6 | 40·8 | 8·7 | 36·5 | 2 40·66 | − 0·23 | ......... | +22·38 | 20 3 2·81 |
|  | $\alpha^2$ Capricorni | 30·7 | 44·2 | 58·0 | 11·7 | 25·3 | 8 57·98 | + 0·62 | +22·18 | +22·38 | 20 9 20·98 |
|  | ο Capricorni, preced. | ...... | 15·6 | ...... | 43·8 | ...... | 20 29·70 | + 0·66 | ......... | +22·38 | 20 20 52·74 |
|  | ο Capricorni, follow. | 3·2 | ...... | 31 0 | ...... | 59·1 | 20 31·10 | + 0·66 | ......... | +22·38 | 20 20 54·14 |
| Oct. 23 | α Ursæ Minoris S.P. | 25·5 | 44·5 | 3·0 | 23·5 | 41·5 | 3 3·60 | +14·67 | ......... | +23·23 | 13 3 41·50 |
| Oct. 24 | Sun 1 Limb | 15·9 | 29·9 | 43·3 | 57·0 | 10·7 | 52 43·36 | + 0·81 | ......... | +23·25 | 13 53 7·42 |
|  | Sun 2 Limb | 28·2 | 41·6 | 55·4 | 9·1 | 22·6 | 54 55·38 | + 0·81 | ......... | +23·25 | 13 55 19·44 |
|  | α Bootis | 37·2 | 51·2 | 5·3 | 19·5 | 33·7 | 8 5·38 | + 0·55 | +23·26 | +23·26 | 14 8 29·19 |
|  | Venus 1 Limb | 24·0 | 38·7 | 53·8 | 8·8 | 23·6 | 58 53·78 | + 0·93 | ......... | +23·30 | 16 59 18·01 |
|  | (α) Saturn 1 Limb Ring | ...... | 30·9 | ...... | 0·2 | ...... | 39 45·55 | + 0·89 | ......... | +23·30 | 18 40 9·74 |
|  | Saturn 2 Limb Ring | 19·8 | ...... | 48·5 | ...... | 17·3 | 39 48·53 | + 0·89 | ......... | +23·30 | 18 40 12·72 |
|  | β Lyræ | 21·2 | 37·1 | 52·9 | 8·9 | 24·8 | 43 52·98 | + 0·41 | +23·32 | +23·30 | 18 44 16·69 |
|  | ζ Aquilæ | 20·4 | 34·0 | 47·7 | 1·4 | 14·9 | 57 47·68 | + 0·60 | +23·28 | +23·30 | 18 58 11·58 |
|  | Jupiter 1 Limb | 38·8 | ...... | 7·8 | ...... | 36·7 | 9 7·77 | + 0·89 | ......... | +23·30 | 19 9 31·96 |
|  | Jupiter 2 Limb | ...... | 56·2 | ...... | 24·9 | ...... | 9 10·55 | + 0·89 | ......... | +23·30 | 19 9 34·74 |

(α) Very faint and indistinct.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 24 | ο Capricorni, preced. | 0·5 | ······ | 28·6 | ······ | 56·8 | 20 28·63 | + 0·86 | ········· | +23·31 | 20 20 52·80 |
| | ο Capricorni, follow. | ······ | 16·0 | ······ | 44·0 | ······ | 20 30·00 | + 0·86 | ········· | +23·31 | 20 20 54·17 |
| | α Cygni ················ | 4·2 | 22·8 | 41·5 | 0·2 | 18·9 | 35 41·52 | + 0·27 | ········· | +23·31 | 20 36 5·10 |
| | 21 Capricorni ········ | 9·4 | 23·6 | 37·7 | 51·9 | 5·8 | 51 37·68 | + 0·85 | ········· | +23·31 | 20 52 1·84 |
| | α Aquarii ··············· | 53·5 | 6·8 | 20·0 | 33·2 | 46·6 | 57 20·02 | + 0·71 | +23·28 | +23·31 | 21 57 44·04 |
| | 4 Lacertæ ············· | 7·1 | 27·2 | 47·3 | 7·5 | 27·5 | 17 47·32 | + 0·20 | ········· | +23·32 | 22 18 10·84 |
| | 77 Aquarii ············ | 36·1 | 50·0 | 3·8 | 17·9 | 31·7 | 46 3·90 | + 0·85 | ········· | +23·32 | 22 46 28·07 |
| | A.S.C. 2749 ········· | 54·7 | 7·8 | 21·0 | 34·3 | 47·6 | 53 21·08 | + 0·68 | ········· | +23·32 | 22 53 45·08 |
| | 83 Aquarii ············ | 8·7 | 22·1 | 35·5 | 49·1 | 2·5 | 56 35·58 | + 0·78 | ········· | +23·32 | 22 56 59·68 |
| | $\chi^2$ Piscium ············ | 23·0 | 36·3 | 49·6 | 2·8 | 16·1 | 18 49·56 | + 0·71 | ········· | +23·33 | 23 19 13·60 |
| | A.S.C. 2825 ········· | 11·4 | 25·0 | 38·4 | 52·0 | 5·7 | 32 38·50 | + 0·80 | ········· | +23·33 | 23 33 2·63 |
| | Uranus ················· | 7·9 | 21·1 | 34·5 | 47·8 | 1·1 | 42 34·48 | + 0·72 | ········· | +23·33 | 23 42 58·53 |
| | 4 Ceti ·················· | 52·2 | 5·7 | 19·0 | 32·4 | 45·6 | 59 18·98 | + 0·72 | ········· | +23·33 | 23 59 43·03 |
| | α Ursæ Minoris ······ | 55·5 | 15·5 | 35·5 | 54·5 | 14·0 | 3 35·00 | −16·57 | ········· | +23·35 | 1 3 41·78 |
| Oct. 25 | ζ Pegasi ··············· | 47·7 | ······ | 14·8 | 28·2 | 41·5 | 33 14·67 | + 0·77 | +23·66 | +23·72 | 22 33 39·16 |
| | 77 Aquarii ············ | 35·5 | 49·5 | 3·3 | 17·1 | 31·0 | 46 3·28 | + 1·02 | ········· | +23·72 | 22 46 28·02 |
| | α Pegasi ··············· | 6·0 | 19·5 | 33·3 | 47·0 | 0·8 | 56 33·32 | + 0·72 | +23·83 | +23·72 | 22 56 57·76 |
| | ι Piscium ·············· | 2·8 | 16·1 | 29·5 | 42·9 | 56·1 | 31 29·48 | + 0·81 | +23·62 | +23·72 | 23 31 54·01 |
| | Uranus ················· | 0·9 | 14·2 | 27·4 | 40·8 | 53·9 | 42 27·44 | + 0·89 | ········· | +23·72 | 23 42 52·05 |
| | α Andromedæ ········ | 23·9 | ······ | 54·0 | 9·1 | 24·3 | 59 54·02 | + 0·59 | +23·84 | +23·72 | 0 0 18·33 |
| | γ Pegasi ··············· | 18·9 | 32·7 | 46·5 | 0·2 | 13·9 | 4 46·44 | + 0·73 | +23·68 | +23·72 | 0 5 10·89 |
| | α Ursæ Minoris ······ | 58·5 | 18·0 | 35·5 | 57·0 | 15·0 | 3 36·80 | −18·84 | ········· | +23·73 | 1 3 41·69 |
| Oct. 26 | α Cygni ················ | 3·4 | 22·2 | 41·0 | 59·9 | 18·6 | 35 41·02 | + 0·33 | ········· | +23·86 | 20 36 5·21 |
| | 76 Draconis ··········· | 4·5 | 39·0 | 14·0 | 49·0 | 23·5 | 53 14·00 | − 2·41 | ········· | +23·87 | 20 53 35·46 |
| | ζ Cygni ················ | 21·0 | 36·3 | 51·6 | 7·0 | 22·2 | 5 51·62 | + 0·51 | +23·87 | +23·88 | 21 6 16·01 |
| | 4 Lacertæ ············· | 6·5 | 26·6 | 46·5 | 6·7 | 26·9 | 17 46·64 | + 0·26 | ········· | +23·93 | 22 18 10·83 |
| | ζ Pegasi ··············· | 47·7 | 0·9 | 14·5 | 28·0 | 41·6 | 33 14·54 | + 0·69 | +23·86 | +23·94 | 22 33 39·17 |
| | A.S.C. 2734 ········· | 59·0 | 26·0 | 53·4 | 21·0 | 48·2 | 44 53·52 | − 0·03 | ········· | +23·95 | 22 45 17·44 |
| | A.S.C. 2757 ········· | 7·6 | 40·3 | 13·4 | 46·8 | 19·8 | 57 13·58 | − 0·26 | ········· | +23·96 | 22 57 37·28 |
| | A.S.C. 2802 ········· | 3·5 | 41·3 | 19·0 | 57·2 | 34·8 | 20 19·16 | − 0·44 | ········· | +23·97 | 23 20 42·69 |
| | ι Piscium ·············· | 2·5 | 15·8 | 29·1 | 42·6 | 55·8 | 31 29·16 | + 0·72 | +24·02 | +23·98 | 23 31 53·86 |
| | Uranus ················· | 54·1 | 7·4 | 20·6 | 33·8 | 47·1 | 42 20·60 | + 0·78 | ········· | +23·99 | 23 42 45·37 |
| | 4 Ceti ·················· | 51·4 | 4·9 | 18·2 | 31·6 | 44·8 | 59 18·18 | + 0·78 | ········· | +24·00 | 23 59 42·96 |
| | γ Pegasi ··············· | 18·8 | 32·4 | 46·1 | 59·9 | 13·6 | 4 46·16 | + 0·65 | +24·04 | +24·00 | 0 5 10·81 |
| | ι Ceti ·················· | 35·3 | 48·9 | 2·3 | 15·9 | 29·3 | 11 2·34 | + 0·83 | ········· | +24·00 | 0 11 27·17 |
| | α Ursæ Minoris ······ | 53·5 | 13·5 | 34·0 | 55·0 | ······ | 3 33·62 | −16·11 | ········· | +24·03 | 1 3 41·54 |
| | θ Cancri ··············· | 45·7 | 59·9 | 13·9 | 28·0 | 41·9 | 22 13·88 | + 0·62 | ········· | +24·17 | 8 22 38·67 |
| | Moon 2 Limb ········· | 53·2 | 7·2 | 21·6 | 35·9 | 50·1 | 34 21·60 | + 0·63 | ········· | +24·18 | 8 34 46·41 |
| | ε Hydræ ··············· | 36·0 | 49·6 | 3·0 | 16·4 | 29·7 | 38 2·94 | + 0·71 | +24·18 | +24·18 | 8 38 27·83 |
| Oct. 27 | $\alpha^2$ Cancri ·············· | 1·4 | 15·0 | 28·6 | 42·2 | 55·7 | 49 28·58 | + 0·55 | ········· | +24·78 | 8 49 53·91 |
| | 83 Cancri ·············· | 19·6 | 33·6 | 47·7 | 1·5 | 15·5 | 9 47·58 | + 0·51 | ········· | +24·79 | 9 10 12·88 |
| | Moon 2 Limb ········ | 3·1 | 17·2 | 31·2 | 45·1 | 58·7 | 30 31·06 | + 0·56 | ········· | +24·80 | 9 30 56·42 |
| | α Leonis ··············· | 7·6 | 21·3 | 35·0 | 48·5 | 2·1 | 59 34·90 | + 0·55 | +24·81 | +24·81 | 10 0 0·26 |
| | α Ursæ Minoris S.P. | 21·5 | 39·0 | 0·5 | 21·0 | 39·0 | 3 0·20 | +16·28 | ········· | +24·91 | 13 3 41·39 |
| Oct. 28 | Sun 1 Limb ····· ····· | 36·1 | 49·6 | 3·4 | 17·1 | 30·7 | 8 3·38 | + 0·74 | ········· | +24·94 | 14 8 29·06 |
| | α Ursæ Minoris ······ | 54·0 | 12·5 | 32·5 | 50·0 | 10·0 | 3 31·80 | −15·16 | ········· | +25·06 | 1 3 41·70 |
| | ε Leonis ··············· | 0·6 | 15·3 | 30·0 | 44·6 | 59·2 | 36 29·94 | + 0·47 | +25·47 | +25·45 | 9 36 55·86 |
| | π Leonis ··············· | 1·8 | 15·2 | 28·7 | 42·2 | 55·7 | 51 28·72 | + 0·59 | ········· | +25·45 | 9 51 54·76 |
| | α Leonis ··············· | 6·9 | 20·7 | 34·3 | 47·9 | 1·6 | 59 34·28 | + 0·55 | +25·46 | +25·45 | 10 0 0·28 |
| | Moon 2 Limb ········ | 7·4 | 21·1 | 35·0 | 48·8 | 2·4 | 25 34·94 | + 0·61 | ········· | +25·45 | 10 26 1·00 |
| | 58 Leonis ·············· | 34·0 | 47·5 | 0·7 | 14·0 | 27·4 | 52 0·72 | + 0·61 | ········· | +25·45 | 10 52 26·78 |
| | δ Leonis ··············· | 50·3 | 4·5 | 18·7 | 33·0 | 47·2 | 5 18·74 | + 0·49 | +25·43 | +25·46 | 11 5 44·69 |
| | Mars 2 Limb ········ | 52·2 | 5·5 | 19·0 | 32·4 | 45·7 | 39 18·96 | + 0·62 | ········· | +25·46 | 11 39 45·04 |
| | β Leonis ··············· | ······ | 22·4 | 36·1 | 50·2 | 3·9 | 40 36·26 | + 0·54 | +25·50 | +25·47 | 11 41 2·27 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Oct. 28 | 12 Canum Venat. | 39·5 | 56·5 | 13·7 | 30·8 | 47·9 | 48 13·68 | + 0·31 | ......... | +25·48 | 12 48 39·47 |
|  | α Ursæ Minoris S.P. | 21·5 | 38·5 | 0·0 | 20·5 | 39·5 | 3 0·00 | +16·49 | ......... | +25·49 | 13 3 41·98 |
| Oct. 29 | Sun 1 Limb | 27·9 | 41·5 | 55·1 | 8·9 | 22·4 | 11 55·16 | + 0·78 | ......... | +25·50 | 14 12 21·44 |
|  | Sun 2 Limb | 40·6 | 54·3 | 8·1 | 21·8 | 35·6 | 14 8·08 | + 0·78 | ......... | +25·50 | 14 14 34·36 |
|  | α Lyræ | 36·8 | 53·8 | 10·7 | 27·8 | 44·9 | 31 10·80 | + 0·33 | +25·65 | +25·57 | 18 31 36·70 |
|  | β Lyræ | 19·0 | 34·8 | 50·8 | 6·6 | 22·4 | 43 50·72 | + 0·40 | +25·51 | +25·58 | 18 44 16·70 |
|  | ζ Aquilæ | 18·0 | 31·7 | 45·2 | 59·0 | 12·7 | 57 45·32 | + 0·58 | +25·59 | +25·59 | 18 58 11·49 |
|  | 76 Draconis | 1·0 | 35·7 | 10·2 | 46·0 | 20·3 | 53 10·64 | − 2·45 | ......... | +25·65 | 20 53 33·84 |
|  | ζ Cygni | 19·2 | 34·4 | 49·7 | 5·0 | 20·4 | 5 49·74 | + 0·44 | +25·76 | +25·67 | 21 6 15·85 |
|  | 6 Cephei | 39·0 | 10·6 | 41·3 | 11·8 | 42·4 | 15 41·02 | − 0·23 | ......... | +25·68 | 21 16 6·47 |
|  | β Aquarii | 25·1 | 38·3 | 51·7 | 5·0 | 18·4 | 22 51·70 | + 0·73 | +25·63 | +25·69 | 21 23 18·12 |
|  | 9 Cephei | 22·1 | 49·7 | 17·4 | 45·2 | 12·9 | 33 17·46 | − 0·12 | ......... | +25·69 | 21 33 43·03 |
|  | σ Cephei | 36·6 | 3·6 | 30·4 | 57·3 | 24·4 | 40 30·46 | − 0·09 | ......... | +25·73 | 22 40 56·10 |
|  | A.S.C. 2757 | 5·6 | 38·6 | 11·7 | 44·8 | 18·0 | 57 11·74 | − 0·32 | ......... | +25·74 | 22 57 37·16 |
|  | α Ursæ Minoris | 51·5 | 12·5 | 31·5 | ...... | ...... | 3 31·32 | −15·96 | ......... | +25·82 | 1 3 41·18 |
| Oct. 31 | α Andromedæ | 20·8 | 35·8 | 50·9 | 6·0 | 21·0 | 59 50·90 | + 0·33 | +27·19 | +27·20 | 0 0 18·43 |
|  | γ Pegasi | 15·8 | 29·5 | 43·2 | 56·9 | 10·6 | 4 43·20 | + 0·43 | +27·20 | +27·20 | 0 5 10·83 |
|  | α Ursæ Minoris | 48·0 | 8·0 | 25·5 | 46·5 | 6·0 | 3 26·80 | −13·28 | ......... | +27·26 | 1 3 40·78 |
|  | β Leonis | 6·6 | 20·2 | 34·0 | 47·7 | 1·5 | 40 34·00 | + 0·42 | +27·99 | +27·90 | 11 41 2·32 |
|  | Mars 2 Limb | 37·4 | 50·6 | 4·1 | ...... | 30·5 | 46 3·98 | + 0·50 | ......... | +27·91 | 11 46 32·39 |
|  | 12 Canum Venat. | 37·2 | 54·2 | 11·4 | 28·6 | 45·8 | 48 11·44 | + 0·22 | ......... | +27·97 | 12 48 39·63 |
|  | α Ursæ Minoris S.P. | 21·5 | 40·5 | 0·0 | 20·5 | 41·0 | 3 0·70 | +14·36 | ......... | +27·99 | 13 3 43·05 |
|  | α Virginis | 59·4 | 12·9 | 26·5 | 39·9 | 53·5 | 16 26·44 | + 0·58 | +27·95 | +28·01 | 13 16 55·03 |
| Nov. 1 | Sun 2 Limb | 20·5 | 34·3 | 48·2 | 2·0 | 15·5 | 25 48·10 | + 0·45 | ......... | +28·10 | 14 26 16·65 |
|  | α Coronæ Borealis | 3·2 | 18·2 | 33·1 | 48·0 | 3·0 | 27 33·10 | + 0·22 | +28·17 | +28·17 | 15 28 1·49 |
|  | Venus 1 Limb | 1·9 | 17·1 | 32·0 | 47·2 | 2·2 | 27 32·08 | + 0·53 | ......... | +28·29 | 17 28 0·90 |
|  | δ Ursæ Minoris | 52·5 | 35·5 | 19·0 | 3·5 | 47·0 | 22 19·50 | − 4·82 | ......... | +28·36 | 18 22 43·04 |
|  | α Lyræ | 34·3 | 51·2 | 8·2 | 25·1 | 42·2 | 31 8·20 | + 0·14 | +28·38 | +28·36 | 18 31 36·70 |
|  | β Lyræ | 16·4 | 32·1 | 48·0 | 3·8 | 19·8 | 43 48·02 | + 0·19 | +28·35 | +28·37 | 18 44 16·58 |
|  | Jupiter 1 Limb | ...... | 39·5 | ...... | 8·2 | ...... | 13 53·85 | + 0·50 | ......... | +28·42 | 19 14 22·17 |
|  | Jupiter 2 Limb | 27·6 | ...... | 56·4 | ...... | 25·2 | 13 56·40 | + 0·50 | ......... | +28·42 | 19 14 25·32 |
|  | ο Capricorni, preced. | ...... | 9·7 | ...... | 37·8 | ...... | 20 23·75 | + 0·47 | ......... | +28·48 | 20 20 52·70 |
|  | ο Capricorni, follow. | 56·9 | ...... | 25·1 | ...... | 53·1 | 20 25·03 | + 0·47 | ......... | +28·48 | 20 20 53·98 |
|  | A.S.C. 2493 | 49·1 | 12·7 | 37·0 | 0·6 | 24·6 | 51 36·80 | − 0·08 | ......... | +28·51 | 20 52 5·23 |
| Nov. 3 | δ Ursæ Minoris | 49·0 | 32·0 | 16·0 | 1·0 | 43·5 | 22 16·30 | − 4·04 | ......... | +30·12 | 18 22 42·38 |
|  | α Lyræ | 32·3 | 49·3 | 6·4 | 23·4 | 40·4 | 31 6·36 | + 0·21 | +30·12 | +30·12 | 18 31 36·69 |
|  | β Lyræ | 14·4 | 30·2 | 46·1 | 2·0 | 18·0 | 43 46·14 | + 0·25 | +30·13 | +30·12 | 18 44 16·51 |
|  | ζ Aquilæ | 13·6 | 27·2 | 41·0 | 54·6 | 8·3 | 57 40·94 | + 0·35 | +30·12 | +30·13 | 18 58 11·42 |
|  | Jupiter 1 Limb | 41·3 | ...... | 10·2 | ...... | 39·1 | 15 10·20 | + 0·52 | ......... | +30·14 | 19 15 40·86 |
|  | Jupiter 2 Limb | ...... | 58·4 | ...... | 27·3 | ...... | 15 12·85 | + 0·52 | ......... | +30·14 | 19 15 43·51 |
|  | δ Aquilæ | 37·6 | 50·8 | 4·2 | 17·5 | 30·8 | 17 4·18 | + 0·40 | +30·22 | +30·14 | 19 17 34·72 |
|  | ι Piscium | 56·7 | 10·0 | 23·4 | 36·7 | 50·1 | 31 23·38 | + 0·40 | +30·06 | +30·25 | 23 31 54·03 |
|  | 12 Canum Venat. | 34·5 | 51·6 | 8·7 | 25·7 | 42·9 | 48 8·68 | + 0·21 | ......... | +30·69 | 12 48 39·58 |
|  | α Ursæ Minoris S.P. | 18·0 | 38·0 | 57·5 | 17·5 | 37·0 | 2 57·60 | +10·41 | ......... | +30·70 | 13 3 38·71 |
|  | α Bootis | 29·8 | 44·0 | 58·1 | 12·3 | 26·3 | 7 58·10 | + 0·33 | +30·83 | +30·73 | 14 8 29·16 |
| Nov. 4 | α Ophiuchi | 39·7 | 53·4 | 7·0 | 20·7 | 34·1 | 27 6·98 | + 0·52 | +30·78 | +30·87 | 17 27 38·37 |
|  | Venus 1 Limb | 44·9 | 59·9 | 15·0 | 30·1 | 45·1 | 37 15·00 | + 0·78 | ......... | +30·87 | 17 37 46·65 |
|  | δ Ursæ Minoris | 48·0 | 31·5 | 16·0 | 59·5 | 43·5 | 22 15·70 | − 5·31 | ......... | +30·90 | 18 22 41·29 |
|  | α Lyræ | 31·4 | 48·4 | 5·3 | 22·5 | 39·4 | 31 5·40 | + 0·33 | +30·94 | +30·91 | 18 31 36·64 |
|  | β Lyræ | 13·4 | 29·2 | 45·2 | 1·0 | 17·0 | 43 45·16 | + 0·38 | +30·96 | +30·92 | 18 44 16·46 |
|  | β Ceti | 44·1 | 58·2 | 12·2 | 26·1 | 40·1 | 35 12·14 | + 0·71 | +31·08 | +31·08 | 0 35 43·93 |
|  | α Ursæ Minoris | 42·0 | 2·0 | ...... | ...... | 3·0 | 3 22·43 | −12·61 | ......... | +31·10 | 1 3 40·92 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 5 | ζ Cygni | 13·0 | 28·2 | 43·4 | 58·8 | 14·1 | 5 43·50 | + 0·48 | +31·83 | +31·74 | 21 6 15·72 |
| | 6 Cephei | 33·7 | 4·3 | 34·6 | 5·3 | 35·6 | 15 34·70 | − 0·10 | ......... | +31·74 | 21 16 6·34 |
| | α Ursæ Minoris | 41·5 | 1·5 | 22·0 | 42·5 | 1·5 | 3 21·80 | −13·98 | ......... | +31·80 | 1 3 39·62 |
| | $\theta^1$ Ceti | 12·9 | 26·3 | 39·9 | 53·2 | 6·7 | 15 39·80 | + 0·76 | +31·75 | +31·80 | 1 16 12·36 |
| Nov. 7 | ι Piscium | 53·0 | 6·2 | 19·7 | 33·0 | 46·2 | 31 19·62 | + 0·65 | +33·54 | +33·51 | 23 31 53·78 |
| | α Andromedæ | 14·1 | 29·2 | 44·3 | 59·4 | 14·6 | 59 44·32 | + 0·48 | +33·57 | +33·54 | 0 0 18·34 |
| | γ Pegasi | 9·2 | 22·9 | 36·6 | 50·4 | 4·2 | 4 36·66 | + 0·59 | +33·54 | +33·55 | 0 5 10·80 |
| | α Ursæ Minoris | 39·5 | 59·0 | 18·0 | 39·5 | 59·5 | 3 19·10 | −13·58 | ......... | +33·61 | 1 3 39·13 |
| | $\theta^1$ Ceti | 11·1 | 24·5 | 37·9 | 51·4 | 4·8 | 15 37·94 | + 0·74 | +33·63 | +33·63 | 1 16 12·31 |
| Nov. 8 | Sun 1 Limb | ...... | 0·1 | 14·0 | 27·8 | 41·8 | 51 13·98 | + 0·65 | ......... | +34·08 | 14 51 48·71 |
| | Sun 2 Limb | 1·5 | 15·3 | 29·2 | 43·3 | 57·1 | 53 29·28 | + 0·65 | ......... | +34·08 | 14 54 4·01 |
| | α Coronæ Borealis | 57·1 | 12·0 | 27·0 | 41·9 | 56·9 | 27 26·98 | + 0·39 | +34·12 | +34·12 | 15 28 1·49 |
| | α Ophiuchi | 36·4 | 50·0 | 3·7 | 17·2 | 30·9 | 27 3·64 | + 0·47 | +34·13 | +34·20 | 17 27 38·31 |
| | α Lyræ | 28·0 | 44·9 | 2·0 | 19·1 | 36·1 | 31 2·02 | + 0·29 | +34·28 | +34·25 | 18 31 36·56 |
| | β Aquilæ | 34·5 | 47·8 | 1·2 | 14·4 | 27·8 | 47 1·14 | + 0·52 | +34·33 | +34·29 | 19 47 35·95 |
| Nov. 9 | Sun 1 Limb | 46·7 | ...... | 14·3 | 28·3 | 42·4 | 55 14·44 | + 0·61 | ......... | +34·85 | 14 55 49·90 |
| | Sun 2 Limb | 2·4 | 16·0 | 30·1 | 44·2 | 58·1 | 57 30·16 | + 0·61 | ......... | +34·85 | 24 58 5·62 |
| | α Lyræ | 27·1 | 44·3 | 1·4 | 18·4 | 35·3 | 31 1·30 | + 0·26 | +35·02 | +34·95 | 18 31 36·51 |
| | ζ Aquilæ | 8·7 | 22·3 | 36·0 | 49·7 | 3·4 | 57 36·02 | + 0·44 | +34·87 | +34·95 | 18 58 11·41 |
| | δ Aquilæ | 32·7 | 46·0 | 59·2 | 12·6 | 25·8 | 16 59·26 | + 0·50 | +34·96 | +34·96 | 19 17 34·72 |
| | Jupiter 1 Limb | 43·8 | ...... | 12·6 | ...... | ...... | 19 12·59 | + 0·65 | ......... | +34·97 | 19 19 48·21 |
| | Jupiter 2 Limb | ...... | 0·8 | ...... | 29·6 | ...... | 19 15·20 | + 0·65 | ......... | +34·97 | 19 19 50·82 |
| | α Cygni | 52·1 | 10·9 | 29·4 | 48·1 | 6·9 | 35 29·48 | + 0·20 | ......... | +35·00 | 20 36 4·68 |
| | ε Aquarii | 8·0 | 21·7 | 35·2 | 48·7 | 2·1 | 38 35·14 | + 0·58 | ......... | +35·00 | 20 39 10·72 |
| | A.S.C. 2493 | 41·8 | 6·0 | 29·8 | 53·9 | 17·8 | 51 29·86 | + 0·03 | ......... | +35·01 | 20 52 4·90 |
| | Moon 1 Limb | 15·7 | 29·5 | 43·2 | 57·1 | 11·1 | 59 43·32 | + 0·66 | ......... | +35·01 | 21 0 18·99 |
| | ζ Cygni | 9·7 | 25·1 | 40·3 | 55·5 | 10·9 | 5 40·30 | + 0·34 | +35·10 | +35·02 | 21 6 15·66 |
| | 31 Capricorni | 25·2 | 39·2 | 53·1 | 7·2 | 21·2 | 8 53·18 | + 0·62 | ......... | +35·02 | 21 9 28·82 |
| | ι Capricorni | 27·0 | 40·8 | 54·8 | 8·8 | 22·5 | 12 54·78 | + 0·61 | ......... | +35·03 | 21 13 30·42 |
| | β Aquarii | 15·5 | 29·0 | 42·4 | ...... | 9·1 | 22 42·34 | + 0·55 | +35·01 | +35·03 | 21 23 17·92 |
| | 44 Capricorni | 27·7 | 41·5 | 55·2 | 9·0 | 22·5 | 33 55·18 | + 0·60 | ......... | +35·04 | 21 34 30·82 |
| | σ Cephei | 27·0 | 53·7 | 20·4 | 47·3 | 14·5 | 40 20·58 | − 0·06 | ......... | +35·05 | 21 40 55·57 |
| | 4 Cassiopeæ | 24·4 | 52·2 | 20·0 | 47·8 | 15·6 | 17 20·00 | − 0·08 | ......... | +35·10 | 23 17 55·02 |
| | Uranus | 27·3 | 40·7 | 54·2 | ...... | 20·6 | 40 54·03 | + 0·53 | ......... | +35·11 | 23 41 29·67 |
| | ι Ceti | 24·4 | 38·0 | 51·5 | 4·9 | 18·6 | 10 51·48 | + 0·58 | ......... | +35·12 | 0 11 27·18 |
| | 12 Cassiopeæ | 43·0 | 10·4 | 37·8 | 4·8 | 32·4 | 15 37·68 | − 0·07 | ......... | +35·12 | 0 16 12·73 |
| | Piazzi O. 74 | 38·6 | 56·9 | 15·2 | 33·6 | 51·9 | 19 15·24 | + 0·20 | ......... | +35·13 | 0 19 50·57 |
| | Piazzi O. 124 | 5·4 | 23·8 | 42·2 | 0·7 | 18·8 | 27 42·18 | + 0·20 | ......... | +35·13 | 0 28 17·51 |
| | 32 Andromedæ | 30·1 | 46·9 | 4·0 | 21·0 | 38·0 | 32 4·00 | + 0·26 | ......... | +35·13 | 0 32 39·39 |
| | ν Cassiopeæ | 43·2 | 4·0 | 24·7 | 45·2 | 6·0 | 39 24·62 | + 0·11 | ......... | +35·13 | 0 39 59·86 |
| | Piazzi O. 209 | 18·8 | 45·5 | 12·3 | 39·0 | 5·8 | 43 12·28 | − 0·06 | ......... | +35·14 | 0 43 47·36 |
| | 39 Andromedæ | 57·8 | 15·2 | 32·6 | 50·1 | 7·7 | 53 32·68 | − 0·06 | ......... | +35·14 | 0 54 7·76 |
| | μ Cassiopeæ | 33·8 | 56·5 | 19·0 | 41·8 | 4·6 | 57 19·14 | + 0·07 | ......... | +35·14 | 0 57 54·35 |
| | α Ursæ Minoris | 37·0 | ...... | 18·0 | ...... | 57·0 | 3 16·88 | +11·95 | ......... | +35·15 | 1 3 40·08 |
| | φ Cassiopeæ | 53·2 | 17·8 | 42·5 | 7·2 | 31·9 | 9 42·52 | 0·00 | ......... | +35·15 | 1 10 17·67 |
| | 47 Andromedæ | 36·2 | 52·8 | 9·6 | 26·1 | 42·8 | 14 9·50 | + 0·28 | ......... | +35·15 | 1 14 44·93 |
| | ω Andromedæ | 6·8 | 25·5 | 44·2 | 3·0 | 21·5 | 17 44·20 | + 0·20 | ......... | +35·16 | 1 18 19·56 |
| | χ Cassiopeæ | 20·1 | 45·3 | 10·7 | 36·1 | 1·5 | 23 10·74 | − 0·01 | ......... | +35·16 | 1 23 45·89 |
| | Piazzi I. 113 | 40·6 | 0·4 | 20·1 | 40·0 | 59·8 | 26 20·18 | + 0·16 | ......... | +35·16 | 1 26 55·50 |
| | χ Andromedæ | 47·8 | 6·0 | 24·3 | 42·6 | 1·0 | 29 24·34 | + 0·20 | ......... | +35·16 | 1 29 59·70 |
| | Piazzi I. 203 | 32·0 | 48·5 | 5·0 | 21·4 | 38·0 | 46 4·98 | + 0·29 | ......... | +35·17 | 1 46 40·44 |
| | 52 Cassiopeæ | 42·4 | 12·8 | 43·5 | 13·9 | 44·5 | 50 43·42 | − 0·16 | ......... | +35·17 | 1 51 18·43 |
| | 58 Andromedæ | 55·5 | 12·1 | 28·7 | 45·4 | 2·0 | 58 28·74 | + 0·41 | ......... | +35·18 | 1 59 4·33 |
| | 6 Persei | 57·4 | 18·2 | 39·2 | 0·0 | 20·8 | 2 39·12 | + 0·11 | ......... | +35·18 | 2 3 14·41 |
| | 7 Trianguli | 35·0 | 51·0 | 6·8 | 22·6 | 38·3 | 6 6·74 | + 0·31 | ......... | +35·18 | 2 6 42·23 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 9 | Piazzi II. 41 | 57·6 | 17·4 | 37·4 | 57·3 | 17·2 | 8 37·38 | + 0·15 | ……… | +35·18 | 2 0 12·71 |
| | 64 Andromedæ | 47·7 | 7·9 | 28·2 | 48·8 | 9·0 | 13 28·32 | + 0·14 | ……… | +35·19 | 2 14 3·65 |
| | 14 Trianguli | 26·5 | 42·7 | 59·1 | 15·4 | 31·7 | 21 59·08 | + 0·30 | ……… | +35·19 | 2 22 34·57 |
| | α Ursæ Minoris S.P. | 10·0 | 31·0 | 51·0 | 12·0 | 31·5 | 2 51·10 | +13·01 | ……… | +35·53 | 13 3 39·64 |
| Nov. 12 | α Andromedæ | 11·5 | 26·7 | 41·8 | 56·9 | 12·0 | 59 41·78 | + 0·39 | +36·16 | +36·36 | 0 0 18·53 |
| | γ Pegasi | 6·4 | 20·1 | 33·9 | 47·5 | 1·3 | 4 33·84 | + 0·47 | +36·44 | +36·36 | 0 5 10·67 |
| | ι Ceti | 23·1 | 36·5 | 50·0 | 3·5 | 17·0 | 10 50·02 | + 0·60 | ……… | +36·37 | 0 11 26·99 |
| | 12 Cassiopeæ | 41·5 | 8·8 | 36·2 | 3·5 | 30·8 | 15 36·16 | + 0·57 | ……… | +36·38 | 0 16 13·11 |
| | Piazzi O. 74 | 37·1 | 55·4 | 13·8 | 32·0 | 50·5 | 19 13·76 | + 0·25 | ……… | +36·38 | 0 19 50·39 |
| | Piazzi O. 124 | 4·3 | 22·6 | 40·8 | 59·0 | 17·4 | 27 40·82 | + 0·25 | ……… | +36·39 | 0 28 17·46 |
| | 32 Andromedæ | 28·5 | 45·6 | 2·6 | 19·7 | 36·7 | 32 2·62 | + 0·29 | ……… | +36·39 | 0 32 39·30 |
| | β Ceti | 38·7 | 52·8 | 6·7 | 20·9 | 35·0 | 35 6·82 | + 0·65 | +36·42 | +36·40 | 0 35 43·87 |
| | Piazzi O. 209 | 16·9 | 44·1 | 10·9 | 37·7 | 4·5 | 43 10·82 | 0·00 | ……… | +36·41 | 0 43 47·23 |
| | 39 Andromedæ | 56·3 | 13·8 | 31·3 | 48·8 | 6·2 | 53 31·28 | + 0·28 | ……… | +36·42 | 0 54 7·98 |
| | μ Cassiopeæ | 32·5 | 54·6 | 17·6 | 40·5 | 3·0 | 57 17·64 | + 0·11 | ……… | +36·43 | 0 57 54·18 |
| | 32 Cassiopeæ | 57·2 | 27·8 | 58·2 | 28·8 | 59·3 | 0 58·26 | − 0·10 | ……… | +36·43 | 1 1 34·59 |
| | α Ursæ Minoris | 33·0 | …… | 13·0 | …… | 53·0 | 3 12·55 | −11·41 | ……… | +36·43 | 1 3 37·57 |
| | φ Cassiopeæ | 51·8 | 16·4 | 41·0 | 5·7 | 30·3 | 9 41·04 | + 0·06 | ……… | +36·44 | 1 10 17·54 |
| | $\theta^1$ Ceti | 8·5 | 21·8 | 35·2 | 48·7 | 2·2 | 15 35·28 | + 0·60 | +36·42 | +36·45 | 1 16 12·33 |
| | χ Cassiopeæ | 18·7 | 44·0 | 9·5 | 34·6 | 0·0 | 23 9·36 | + 0·04 | ……… | +36·46 | 1 23 45·86 |
| | Piazzi I. 113 | 39·3 | 58·7 | 18·8 | 38·5 | 58·3 | 26 18·72 | + 0·20 | ……… | +36·47 | 1 26 55·39 |
| | Piazzi I. 170 | 16·1 | 32·8 | 49·5 | 6·1 | 22·8 | 38 49·46 | + 0·30 | ……… | +36·48 | 1 39 26·24 |
| | 1 Persei | 23·4 | 46·1 | 9·0 | 31·9 | 54·6 | 41 9·00 | + 0·11 | ……… | +36·49 | 1 41 45·60 |
| | 52 Cassiopeæ | 41·2 | 11·6 | 42·0 | 12·5 | 43·0 | 50 42·06 | − 0·10 | ……… | +36·49 | 1 51 18·45 |
| | α Arietis | 16·2 | 30·5 | 44·9 | 59·4 | 13·8 | 57 44·96 | + 0·42 | +36·59 | +36·50 | 1 58 21·88 |
| | 5 Persei | 13·6 | 38·0 | 2·3 | 26·7 | 50·9 | 0 2·30 | + 0·08 | ……… | +36·50 | 2 0 38·88 |
| | 7 Trianguli | 33·8 | 49·5 | 5·3 | 21·0 | 36·8 | 6 5·28 | + 0·36 | ……… | +36·51 | 2 6 42·15 |
| | Piazzi II. 41 | 56·2 | 16·0 | 36·0 | 55·8 | 15·8 | 8 35·96 | + 0·18 | ……… | +36·51 | 2 9 12·65 |
| | 64 Andromedæ | 46·2 | 6·6 | 27·0 | 47·2 | 7·6 | 13 26·92 | + 0·19 | ……… | +36·52 | 2 14 3·64 |
| | 14 Trianguli | 25·1 | 41·4 | 57·7 | 14·0 | 30·3 | 21 57·70 | + 0·34 | ……… | +36·53 | 2 22 34·57 |
| | 12 Persei | 12·8 | 29·9 | 47·0 | 4·2 | 21·6 | 31 47·10 | + 0·30 | ……… | +36·53 | 2 32 23·93 |
| | 17 Persei | 44·5 | 0·7 | 16·7 | 32·9 | 49·1 | 41 16·78 | + 0·35 | ……… | +36·54 | 2 41 53·67 |
| Nov. 13 | ω Piscium | …… | …… | 39·1 | 52·3 | 5·7 | 50 39·00 | + 0·46 | ……… | +36·92 | 23 51 16·38 |
| | Moon 1 Limb | 20·6 | 33·9 | 47·6 | 1·4 | 14·9 | 59 47·68 | + 0·46 | ……… | +36·93 | 0 0 25·07 |
| | γ Pegasi | 6·1 | 19·6 | 33·3 | 47·0 | 0·8 | 4 33·36 | + 0·43 | +36·96 | +36·94 | 0 5 10·73 |
| | 41 Piscium | 28·7 | 42·0 | 55·4 | 8·7 | 22·1 | 10 55·38 | + 0·47 | ……… | +36·94 | 0 11 32·79 |
| | β Ceti | 38·2 | 52·3 | 6·4 | 20·4 | 34·5 | 35 6·36 | + 0·57 | +36·95 | +36·96 | 0 35 43·89 |
| | α Ursæ Minoris S.P. | …… | 29·5 | 49·0 | 10·5 | 31·0 | 2 50·08 | + 9·67 | ……… | +37·22 | 13 3 36·97 |
| | α Virginis | 50·4 | 3·8 | 17·4 | 30·9 | 44 5 | 16 17·40 | + 0·53 | +37·29 | +37·22 | 13 16 55·15 |
| | η Bootis | 6·2 | 20·2 | 34·2 | 48·3 | 2·4 | 46 34·26 | + 0·42 | +37·19 | +37·22 | 13 47 11·90 |
| | α Bootis | 23·4 | 37·6 | 51·7 | 5·9 | 20·0 | 7 51·72 | + 0·42 | +37·25 | +37·22 | 14 8 29·36 |
| Nov. 14 | Sun 1 Limb | 2·8 | 16·8 | 30·9 | 44·9 | 58·9 | 15 30·86 | + 0·81 | ……… | +37·19 | 15 16 8·86 |
| | Sun 2 Limb | 19·6 | 33·7 | 47·8 | 1·8 | 15·8 | 17 47·74 | + 0·81 | ……… | +37·19 | 15 18 25·74 |
| | α Ophiuchi | 33·4 | 46·8 | 0·4 | 14·1 | 27·8 | 27 0·50 | + 0·62 | +37·09 | +37·17 | 17 27 38·29 |
| | Venus 1 Limb | …… | 40·7 | 55·8 | 10·8 | 25·9 | 3 55·79 | + 0·88 | ……… | +37·16 | 18 4 33·83 |
| | δ Ursæ Minoris | 37·5 | 21·0 | …… | 50·0 | 34·0 | 22 5·65 | − 5·36 | ……… | +37·16 | 18 22 37·45 |
| | α Lyræ | 24·8 | 41·8 | 58·9 | 15·9 | 33·0 | 30 58·88 | + 0·42 | +37·19 | +37·16 | 18 31 36·46 |
| | β Lyræ | 7·0 | 22·8 | 38·8 | 54·6 | 10·5 | 43 38·74 | + 0·47 | +37·14 | +37·16 | 18 44 16·37 |
| | A.S.C. 2499 | 18·5 | 35·0 | 51·6 | 8·5 | 24·8 | 53 51·68 | − 1·34 | ……… | +37·16 | 20 54 27·50 |
| | ζ Cygni | 7·5 | 22·7 | 37·9 | 53·2 | 8·5 | 5 37·96 | + 0·50 | +37·19 | +37·16 | 21 6 15·62 |
| | β Aquarii | 13·2 | 26·4 | 40·0 | 53·3 | 6·7 | 22 39·92 | + 0·74 | +37·17 | +37·16 | 21 23 17·82 |
| | 44 Capricorni | 25·0 | 38·8 | 52·6 | 6·4 | 20·2 | 33 52·60 | + 0·79 | ……… | +37·16 | 21 34 30·55 |
| | A.S.C. 2843 | 43·6 | 17·4 | 51·5 | 25·5 | 59·3 | 39 51·46 | − 0·14 | ……… | +37·18 | 23 40 28·50 |
| | σ Andromedæ | 59·5 | 15·8 | 32·0 | 48·4 | 4·9 | 9 32·12 | + 0·45 | ……… | +37·18 | 0 10 9·75 |
| | 41 Piscium | 28·0 | 41·4 | …… | 8·3 | 21·6 | 11 54·83 | + 0·66 | ……… | +37·18 | 0 12 32·67 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | Interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 14 | Piazzi O. 74 | 36·1 | 54·4 | 12·8 | 31·1 | 49·5 | 19 12·78 | + 0·36 | ......... | +37·18 | 0 19 50·32 |
| | Piazzi O. 124 | 3·4 | 21·3 | 39·9 | 58·2 | 16·7 | 27 39·90 | + 0·36 | ......... | +37·18 | 0 28 17·44 |
| | 32 Andromedæ | 27·6 | 44·5 | 1·5 | 18·6 | 35·8 | 32 1·60 | + 0·42 | ......... | +37·19 | 0 32 39·21 |
| | ο Cassiopeæ | 45·0 | 4·8 | 24·4 | 44·1 | 3·5 | 35 24·36 | + 0·32 | ......... | +37·19 | 0 36 1·87 |
| | ν Cassiopeæ | 40·9 | 1·6 | 22·4 | 43·2 | 3·6 | 39 22·34 | + 0·28 | ......... | +37·19 | 0 39 59·81 |
| | Moon 1 Limb | 57·7 | 11·4 | 25·2 | 39·1 | 52·7 | 45 25·22 | + 0·64 | ......... | +37·19 | 0 46 3·05 |
| | μ Cassiopeæ | 31·4 | 54·1 | 16·6 | 39·2 | 2·0 | 57 16·66 | + 0·21 | ......... | +37·20 | 0 57 54·07 |
| | 32 Cassiopeæ | 56·2 | 26·8 | 57·4 | 27·8 | 58·5 | 0 57·34 | − 0·04 | ......... | +37·20 | 1 1 34·50 |
| | α Ursæ Minoris | 33·0 | ...... | 12·0 | ...... | 53·0 | 3 12·22 | −12·84 | ......... | +37·20 | 1 3 36·58 |
| | φ Cassiopeæ | 51·0 | 15·6 | 40·3 | 4·8 | 29·4 | 9 40·22 | + 0·14 | ......... | +37·20 | 1 10 17·56 |
| | 47 Andromedæ | 33·9 | 50·3 | 7·0 | 23·7 | 40·4 | 14 7·06 | + 0·44 | ......... | +37·20 | 1 14 44·70 |
| | ω Andromedæ | 4·5 | 23·1 | 41·5 | 0·5 | 19·2 | 17 41·76 | + 0·36 | ......... | +37·20 | 1 18 19·32 |
| | η Piscium | 1·6 | 15·4 | 29·2 | 43·0 | 56·6 | 22 29·16 | + 0·61 | ......... | +37·20 | 1 23 6·97 |
| | Piazzi I. 113 | 37·9 | 57·9 | 17·8 | 37·8 | 57·6 | 26 17·80 | + 0·31 | ......... | +37·21 | 1 26 55·32 |
| | χ Andromedæ | 45·3 | 3·5 | 21·8 | 40·3 | 58·7 | 29 21·92 | + 0·36 | ......... | +37·21 | 1 29 59·49 |
| | Piazzi I. 170 | 15·0 | 31·6 | 48·4 | 5·2 | 21·8 | 38 48·40 | + 0·42 | ......... | +37·21 | 1 39 26·03 |
| | 1 Persei | 22·5 | 45·1 | 8·0 | 30·8 | 53·6 | 41 8·00 | + 0·21 | ......... | +37·21 | 1 41 45·42 |
| | 55 Andromedæ | 43·2 | 0·5 | 17·9 | 35·4 | 52·6 | 43 17·92 | + 0·40 | ......... | +37·21 | 1 43 55·53 |
| | Piazzi I. 203 | 29·6 | 46·1 | 2·5 | 19·0 | 35·6 | 46 2·56 | + 0·45 | ......... | +37·22 | 1 46 40·23 |
| | 49 Cassiopeæ | 25·9 | 18·5 | 11·2 | 3·7 | 56·2 | 50 11·10 | − 0·66 | ......... | +37·22 | 1 50 47·66 |
| | 59 Andromedæ, pre. | 13·3 | 30·1 | 47·0 | 4·1 | 21·0 | 0 47·10 | + 0·41 | ......... | +37·22 | 2 1 24·73 |
| | 60 Andromedæ | 12·0 | 30·2 | 48·5 | 6·8 | 25·2 | 2 48·54 | + 0·36 | ......... | +37·22 | 2 3 26·12 |
| | 7 Trianguli | 33·0 | 48·5 | 4·6 | 20·1 | 36·0 | 6 4·44 | + 0·48 | ......... | +37·22 | 2 6 42·14 |
| | Piazzi II. 41 | 55·2 | 15·0 | 35·1 | 55·0 | 14·9 | 8 35·04 | + 0·30 | ......... | +37·22 | 2 9 12·56 |
| | 64 Andromedæ | 45·2 | 5·6 | 26·0 | 46·3 | 6·7 | 13 25·96 | + 0·28 | ......... | +37·22 | 2 14 3·46 |
| | 14 Trianguli | 24·2 | 40·5 | 56·8 | 13·1 | 29·5 | 21 56·82 | + 0·46 | ......... | +37·23 | 2 22 34·51 |
| | 12 Persei | 11·8 | 28·7 | 46·3 | 3·3 | 20·7 | 31 46·16 | + 0·41 | ......... | +37·23 | 2 32 23·80 |
| | α Ursæ Minoris S.P. | 5·0 | 24·0 | 45·5 | 5·0 | 25·5 | 2 45·00 | +14·28 | ......... | +37·55 | 13 3 36·83 |
| Nov. 15 | δ Ursæ Minoris | 38·0 | 21·5 | 5·5 | ...... | ...... | 22 5·40 | − 4·93 | ......... | +37·73 | 18 22 38·20 |
| | γ Aquilæ | 42·1 | 55·6 | 9·2 | 22·6 | 36·1 | 38 9·12 | + 0·67 | +37·74 | +37·77 | 19 38 47·56 |
| | α Aquilæ | 1·9 | 15·4 | 28·8 | 42·2 | 55·5 | 42 28·76 | + 0·67 | +37·81 | +37·78 | 19 43 7·21 |
| | α Arietis | 14·4 | 28·9 | 43·4 | 57·8 | 12·3 | 57 43·36 | + 0 58 | +38·03 | +37·95 | 1 58 21·89 |
| | γ Ceti | 7·0 | 20·3 | 33·6 | 46·8 | 0·1 | 34 33·56 | + 0·70 | +37·86 | +37·98 | 2 35 12·24 |
| Nov. 16 | | | | INSTRUMENT REVERSED. | | | | | | | |
| Nov. 18 | δ Ursæ Minoris | 35·0 | 19·0 | 2·5 | 46·0 | 29·0 | 22 2·30 | − 6·22 | ......... | +39·60 | 18 22 35·68 |
| | α Lyræ | 22·2 | 39·2 | 56·3 | 13·4 | 30·3 | 30 56·28 | + 0·49 | +39·66 | +39·61 | 18 31 36·38 |
| | δ Aquilæ | 27·5 | 40·9 | 54·2 | 7·5 | 20·8 | 16 54·18 | + 0·81 | +39·63 | +39·65 | 19 17 34·64 |
| | A.S.C. 2802 | 46·5 | 24·2 | 2·0 | 40·0 | 18·1 | 20 2·16 | − 0·29 | ......... | +39·86 | 23 20 41·73 |
| | ι Piscium | 46·4 | 59·7 | 13·1 | 26·4 | 39·8 | 31 13·08 | + 0·81 | +39·82 | +39·87 | 23 31 53·76 |
| | Uranus | 49·8 | 2·9 | 16·3 | 29·6 | 42·8 | 40 16·28 | + 0·86 | ......... | +39·88 | 23 40 57·02 |
| | α Andromedæ | 7·6 | 22·7 | 37·7 | 52·7 | 7·9 | 59 37·72 | + 0·61 | +39·94 | +39·89 | 0 0 18·22 |
| | γ Pegasi | 2·5 | 16·3 | 30·1 | 43·9 | 57·5 | 4 30·06 | + 0·73 | +39·92 | +39·89 | 0 5 10·68 |
| | σ Andromedæ | 56·5 | 13·0 | 29·4 | 45·8 | 2·2 | 9 29·38 | + 0·53 | ......... | +39·90 | 0 10 9·81 |
| | ϱ Andromedæ | 39·9 | 56·4 | 12·9 | 29·5 | 46·3 | 12 13·00 | + 0·51 | ......... | +39·90 | 0 12 53·41 |
| | 12 Cassiopeæ | 37·7 | 4·9 | 32·2 | 59·8 | 27·1 | 15 32·34 | + 0·07 | ......... | +39·90 | 0 16 12·31 |
| | Piazzi O. 118 | 3·1 | 25·3 | 47·4 | 9·7 | 32·0 | 26 47·50 | + 0·27 | ......... | +39·90 | 0 27 27·67 |
| | ξ Cassiopeæ | 0·5 | 21·0 | 41·6 | 2·2 | 22·5 | 32 41·56 | + 0·34 | ......... | +39·91 | 0 33 21·81 |
| | ο Cassiopeæ | 42·3 | 1·8 | 21·4 | 41·1 | 0·8 | 35 21·48 | + 0·38 | ......... | +39·91 | 0 36 1·77 |
| | Piazzi O. 209 | 13·3 | 40·2 | 7·0 | 33·8 | 0·6 | 43 6·98 | + 0·09 | ......... | +39·91 | 0 43 46·98 |
| | 39 Andromedæ | 52·7 | 10·2 | 27·5 | 45·0 | 2·5 | 53 27·58 | + 0·48 | ......... | +39·92 | 0 54 7·98 |
| | 41 Andromedæ | 46·5 | 4·7 | 23·0 | 41·0 | 59·4 | 58 22·92 | + 0·44 | ......... | +39·92 | 0 59 3·28 |
| | 32 Cassiopeæ | 53·5 | 24·0 | 54·4 | 25·1 | 55·3 | 0 54·46 | − 0·04 | ......... | +39·92 | 1 1 34·34 |
| | α Ursæ Minoris | 29·5 | ...... | 9·0 | 31·0 | 51·0 | 3 10·25 | −14·90 | ......... | +39·92 | 1 3 35·27 |
| | 47 Andromedæ | 31·1 | 47·7 | 4·3 | 20·7 | 37·1 | 14 4·18 | + 0·52 | ......... | +39·93 | 1 14 44·63 |

| Date. | OBJECT OBSERVED. | Wire. I. | II. | III. | IV. | V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 18 | ω Andromedæ | 1·5 | 20·1 | 39·0 | 57·4 | 16·2 | 17 38·84 | + 0·43 | ……… | +39·93 | 1 18 19·20 |
| | ϰ Cassiopeæ | 14·8 | 39·9 | 5·6 | 30·9 | 56·1 | 23 5·46 | + 0·16 | ……… | +39·93 | 1 23 45·55 |
| | χ Andromedæ | 42·4 | 0·9 | 19·2 | 37·6 | 55·9 | 29 19·20 | + 0·43 | ……… | +39·94 | 1 29 59·57 |
| | υ Andromedæ | 1·0 | 18·8 | 36·5 | 54·5 | 12·2 | 31 36·60 | + 0·48 | ……… | +39·94 | 1 32 17·02 |
| Nov. 19 | α Aurigæ | 49·4 | 8·4 | 27·3 | 46·4 | 5·5 | 4 27·40 | + 0·35 | ……… | +40·88 | 5 5 8·63 |
| | β Tauri | 12·9 | 27·8 | 43·0 | 58·0 | …… | 15 42·99 | + 0·53 | +40·91 | +40·89 | 5 16 24·41 |
| | Moon 2 Limb | …… | …… | 50·9 | 6·1 | 21·1 | 17 50·82 | + 0·56 | ……… | +40·90 | 5 18 32·28 |
| | δ Orionis | …… | 6·2 | 19·5 | 32·8 | 46·1 | 23 19·51 | + 0·72 | ……… | +40·91 | 5 24 1·14 |
| Nov. 20 | α Ursæ Minoris S.P. | …… | …… | 41·0 | 2·5 | 23·0 | 2 41·27 | +11·49 | ……… | +41·56 | 13 3 34·32 |
| | α Virginis | 46·1 | 59·5 | 13·0 | 26·6 | 40·1 | 16 13·06 | + 0·71 | +41·61 | +41·55 | 13 16 55·32 |
| | α Bootis | 19·2 | 33·2 | 47·3 | 1·5 | 15·7 | 7 47·38 | + 0·56 | +41·57 | +41·52 | 14 8 29·46 |
| | Mercury 2 Limb | 1·4 | 14·9 | 28·5 | 42·2 | 56·1 | 32 28·62 | + 0·78 | ……… | +41·53 | 14 33 10·93 |
| | ε Bootis | 55·0 | 10·1 | 25·0 | 40·0 | 55·1 | 37 25·04 | + 0·51 | +41·47 | +41·53 | 14 38 7·08 |
| Nov. 21 | Sun 1 Limb | 59·2 | 13·5 | 27·8 | 42·0 | 56·1 | 44 27·72 | + 0·86 | ……… | +41·51 | 15 45 10·09 |
| | Sun 2 Limb | 17·7 | 31·8 | 46·1 | 0·2 | 14·2 | 46 46·00 | + 0·86 | ……… | +41·51 | 15 47 28·37 |
| | α Ophiuchi | 28·9 | 42·4 | 56·0 | 9·8 | 23·3 | 26 56·08 | + 0·67 | +41·44 | +41·41 | 17 27 38·16 |
| | α Lyræ | 20·6 | 37·5 | 54·5 | 11·6 | 28·7 | 30 54·58 | + 0·48 | +41·33 | +41·36 | 18 31 36·42 |
| Nov. 22 | ε Bootis | 54·4 | 9·4 | 24·3 | 39·4 | 54·3 | 37 24·36 | + 0·60 | +42·09 | +42·02 | 14 38 6·98 |
| | Mercury 2 Limb | 12·1 | 25·6 | 39·3 | 53·1 | 7·0 | 42 39·42 | + 0·95 | ……… | +42·02 | 14 43 22·39 |
| Nov. 23 | Sun 1 Limb | 23·4 | 37·3 | 51·9 | 6·3 | 20·1 | 52 51·80 | + 1·01 | ……… | +42·03 | 15 53 34·84 |
| | Sun 2 Limb | 42·4 | 56·3 | 10·5 | 25·0 | 39·0 | 55 10·64 | + 1·01 | ……… | +42·03 | 15 55 53·68 |
| | Venus 1 Limb | 3·9 | 18·8 | 33·5 | 48·2 | 3·3 | 17 33·54 | + 1·06 | ……… | +42·05 | 18 18 16·65 |
| | δ Ursæ Minoris | …… | …… | 57·5 | 42·0 | 25·5 | 21 57·97 | − 5·74 | ……… | +42·05 | 18 22 34·28 |
| | α Lyræ | 19·7 | 36·8 | 53·8 | 10·8 | 27·8 | 30 53·78 | + 0·56 | +42·03 | +42·06 | 18 31 36·40 |
| | β Lyræ | 1·7 | 17·7 | 33·6 | 49·5 | 5·2 | 43 33·54 | + 0·60 | +42·09 | +42·07 | 18 44 16·21 |
| | δ Aquilæ | 25·1 | 38·4 | 51·7 | 4·9 | 18·2 | 16 51·66 | + 0·85 | +42·07 | +42·08 | 19 17 34·59 |
| | Jupiter 1 Limb | 17·7 | …… | 46·2 | …… | 15·0 | 29 46·30 | + 1·03 | ……… | +42·08 | 19 30 29·41 |
| | (*a*) Jupiter 2 Limb | …… | 34·2 | …… | 2·8 | …… | 29 48·50 | + 1·03 | ……… | +42·08 | 19 30 31·61 |
| | A.S.C. 2499 | 12·5 | 28·7 | 44·3 | 1·0 | 17·4 | 53 44·78 | − 1·36 | ……… | +42·14 | 20 54 25·56 |
| | 31 Capricorni | 17·4 | 31·3 | 45·1 | 59·2 | 13·2 | 8 45·24 | + 1·00 | ……… | +42·15 | 21 9 28·39 |
| | 44 Capricorni | 19·9 | 33·6 | 47·3 | 1·0 | 14·7 | 33 47·30 | + 0·97 | ……… | +42·16 | 21 34 30·43 |
| | 78 Draconis | 0·6 | 42·8 | 24·8 | 7·0 | 49·1 | 40 24·86 | − 0·31 | ……… | +42·16 | 21 41 6·71 |
| | 30 Cephei | 25·3 | 54·7 | 23·5 | 52·5 | 21·6 | 32 23·52 | + 0·11 | ……… | +42·21 | 22 33 5·84 |
| | A.S.C. 2734, follow. | 39·5 | 6·6 | 33·8 | 1·2 | 28·4 | 44 33·90 | + 0·17 | ……… | +42·22 | 22 45 16·29 |
| | Uranus | 35·0 | 48·4 | 1·7 | 15·1 | 28·3 | 40 1·70 | + 0·89 | ……… | +42·26 | 23 40 44·85 |
| | α Andromedæ | 5·1 | 20·2 | 35·2 | 50·3 | 5·5 | 59 35·26 | + 0·66 | +42·30 | +42·27 | 0 0 18·19 |
| | γ Pegasi | 0·2 | 13·9 | 27·7 | 41·4 | 55·1 | 4 27·66 | + 0·77 | +42·24 | +42·27 | 0 5 10·70 |
| | σ Andromedæ | 54·1 | 10·3 | 26·9 | 43·4 | 59·6 | 9 26·86 | + 0·57 | ……… | +42·27 | 0 10 9·70 |
| | ϱ Andromedæ | 37·4 | 53·9 | 10·7 | 27·2 | 43·8 | 12 10·60 | + 0·57 | ……… | +42·27 | 0 12 53·44 |
| | 12 Cassiopeæ | 35·1 | 2·4 | 29·8 | 57·4 | 24·6 | 15 29·86 | + 0·16 | ……… | +42·27 | 0 16 12·29 |
| | Piazzi O. 128 | 44·0 | 0·2 | 16·3 | 32·4 | 48·5 | 28 16·28 | + 0·59 | ……… | +42·27 | 0 28 59·14 |
| | ξ Cassiopeæ | 58·0 | 18·5 | 38·9 | 59·5 | 19·8 | 32 38·94 | + 0·41 | ……… | +42·28 | 0 33 21·63 |
| | ο Cassiopeæ | 39·8 | 59·3 | 18·8 | 38·2 | 58·0 | 35 18·82 | + 0·44 | ……… | +42·28 | 0 36 1·54 |
| | ν Cassiopeæ | 35·0 | 56·3 | 16·8 | 37·6 | 58·4 | 39 16·82 | + 0·40 | ……… | +42·28 | 0 39 59·50 |
| | Piazzi O. 209 | 11·0 | 37·6 | 4·2 | 31·0 | 57·4 | 43 4·24 | + 0·20 | ……… | +42·28 | 0 43 46·72 |
| | $\sigma^1$ Piscium | 2·0 | 17·4 | 32·8 | 48·3 | 3·7 | 53 32·84 | + 0·63 | ……… | +42·28 | 0 54 15·75 |
| | 41 Andromedæ | 44·0 | 2·3 | 20·4 | 38·5 | 56·6 | 58 20·36 | + 0·50 | ……… | +42·29 | 0 59 3·15 |
| | 32 Cassiopeæ | 50·5 | 21·2 | 52·0 | 22·2 | 52·7 | 0 51·72 | + 0·05 | ……… | +42·29 | 1 1 34·06 |
| | α Ursæ Minoris | 24·0 | …… | 4·0 | 25·0 | …… | 3 4·77 | −13·84 | ……… | +42·29 | 1 3 33·23 |
| | 38 Cassiopeæ | 44·1 | 22·0 | 0·0 | 38·0 | 15·6 | 18 59·94 | − 0·19 | ……… | +42·29 | 1 19 42·04 |
| | 40 Cassiopeæ | 0·2 | 43·8 | 27·2 | 11·2 | 54·5 | 25 27·38 | − 0·36 | ……… | +42·29 | 1 26 9·31 |
| | 42 Cassiopeæ | 55·6 | 34·2 | 12·5 | 51·3 | 30·0 | 30 12·72 | − 0·20 | ……… | +42·29 | 1 30 54·81 |
| | Piazzi I. 170 | 9·8 | 26·5 | 43·3 | 0·1 | 16·8 | 38 43·30 | + 0·56 | ……… | +42·30 | 1 39 26·16 |

(*a*) Very faint.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 23 | 1 Persei | 17·4 | 40·2 | 2·8 | 25·7 | 48·3 | 41 2·88 | + 0·32 | ········ | +42·30 | 1 41 45·50 |
| | 55 Andromedæ | 38·3 | 55·5 | 12·6 | 30·3 | 47·5 | 43 12·84 | + 0·54 | ········ | +42·30 | 1 43 55·68 |
| | Piazzi I. 203 | 24·5 | 41·0 | 57·3 | 14·0 | 30·4 | 45 57·44 | + 0·58 | ········ | +42·30 | 1 46 40·32 |
| | ε Trianguli | 36·4 | 52·0 | 7·7 | 23·4 | 39·1 | 53 7·72 | + 0·61 | ········ | +42·30 | 1 53 50·63 |
| | 58 Andromedæ | 47·8 | 4·5 | 21·2 | 37·8 | 54·7 | 58 21·20 | + 0·56 | ········ | +42·30 | 1 59 4·06 |
| | 59 Andromedæ | 8·1 | 25·0 | 42·0 | 59·0 | 15·8 | 0 41·98 | + 0·56 | ········ | +43·31 | 2 1 24·85 |
| | δ Trianguli | 16·7 | 32·5 | 48·4 | 4·4 | 20·1 | 6 48·42 | + 0·61 | ········ | +42·31 | 2 7 31·34 |
| | 65 Andromedæ | 49·9 | 10·5 | 30·7 | 51·4 | 11·8 | 14 30·86 | + 0·40 | ········ | +42·31 | 2 15 13·57 |
| | Piazzi II. 97 | 11·0 | 54·2 | 37·1 | 20·2 | 4·2 | 22 37·34 | − 0·34 | ········ | +42·31 | 2 23 19·31 |
| | 12 Persei | 6·7 | 23·9 | 41·0 | 58·1 | 15·4 | 31 41·02 | + 0·55 | ········ | +42·31 | 2 32 23·88 |
| | 17 Persei | 38·6 | 54·8 | 10·8 | 27·0 | 43·1 | 41 10·86 | + 0·60 | ········ | +42·31 | 2 41 53·77 |
| | Piazzi II. 191 | 40·4 | 48·2 | 57·0 | 5·0 | 14·0 | 44 56·92 | − 1·13 | ········ | +42·31 | 2 45 38·10 |
| | Piazzi II. 237 | 53·0 | 41·0 | 28·2 | 16·0 | 3·3 | 54 28·30 | − 0·47 | ········ | +42·31 | 2 55 10·14 |
| | ω Persei | 55·8 | 13·0 | 30·1 | 47·1 | 4·2 | 0 30·04 | + 0·56 | ········ | +42·31 | 3 1 12·91 |
| Nov. 24 | ϱ Andromedæ | 37·1 | 53·6 | 10·2 | 26·8 | 43·5 | 12 10·24 | + 0·57 | ········ | +42·32 | 0 12 53·13 |
| | 12 Cassiopeæ | 34·6 | 2·0 | 29·6 | 56·8 | 24·1 | 15 29·42 | + 0·10 | ········ | +42·32 | 0 16 11·84 |
| | β Ceti | 32·4 | 46·5 | 0·5 | 14·4 | 28·3 | 35 0·42 | + 1·06 | +42·32 | +42·32 | 0 35 43·80 |
| | $\sigma^1$ Piscium | 1·7 | 17·2 | 32·8 | 48·2 | 3·8 | 53 32·74 | + 0·64 | ········ | +42·32 | 0 54 15·70 |
| | 41 Andromedæ | 44·1 | 2·3 | 20·4 | 38·6 | 57·0 | 58 20·48 | + 0·50 | ········ | +42·32 | 0 59 3·30 |
| | 32 Cassiopeæ | 51·0 | 21·4 | 51·9 | 22·5 | 53·1 | 0 51·98 | − 0·01 | ········ | +42·32 | 1 1 34·29 |
| | α Ursæ Minoris | 25·0 | ······ | 5·5 | 25·5 | ······ | 3 6·11 | −15·68 | ········ | +42·32 | 1 3 32·75 |
| | 38 Cassiopeæ | 44·0 | 21·8 | 0·0 | 38·0 | 16·0 | 18 59·96 | − 0·28 | ········ | +42·32 | 1 19 42·00 |
| Nov. 25 | 30 Cephei | 25·5 | 54·7 | 23·3 | 52·4 | 21·5 | 32 23·48 | + 0·01 | ········ | +42·58 | 22 33 6·07 |
| | α Pegasi | 47·0 | 0·6 | 14·3 | 28·0 | 41·6 | 56 14·30 | + 0·69 | +42·53 | +42·59 | 22 56 57·58 |
| | α Andromedæ | 4·8 | 20·0 | 35·0 | 50·0 | 5·1 | 59 34·98 | + 0·58 | +42·64 | +42·61 | 0 0 18·17 |
| | γ Pegasi | 0·0 | 13·6 | 27·3 | 41·1 | 54·8 | 4 27·36 | + 0·69 | +42·60 | +42·61 | 0 5 10·66 |
| | 21 Cassiopeæ | 7·6 | 56·0 | 44·5 | 33·1 | 21·6 | 34 44·56 | − 0·55 | ········ | +42·62 | 0 35 26·63 |
| | Piazzi O. 209 | 10·2 | 37·4 | 4·2 | 31·0 | 58·6 | 43 4·28 | + 0·09 | ········ | +42·63 | 0 43 47·00 |
| | $\sigma^1$ Piscium | 1·6 | 17·0 | 32·5 | 48·0 | 3·6 | 53 32·54 | + 0·56 | ········ | +42·64 | 0 54 15·74 |
| | α Ursæ Minoris | 23·5 | ······ | ······ | 25·0 | ······ | 3 4·34 | −14·42 | ········ | +42·64 | 1 3 32·56 |
| | 46 Cassiopeæ | 4·2 | 39·6 | 15·0 | 50·5 | 25·1 | 43 14·88 | − 0·22 | ········ | +42·66 | 1 43 57·32 |
| | 56 Andromedæ | 36·8 | 53·2 | 9·7 | 26·2 | 42·8 | 46 9·74 | + 0·50 | ········ | +42·67 | 1 46 52·91 |
| | 49 Cassiopeæ | 20·2 | 13·0 | 5·7 | 58·3 | 50·8 | 50 5·60 | − 0·76 | ········ | +42·68 | 1 50 47·52 |
| | α Ceti | 56·5 | 9·8 | 23·1 | 36·5 | 49·8 | 53 23·14 | + 0·78 | +42·68 | +42·73 | 2 54 6·65 |
| Nov. 28 | α Bootis | 17·3 | 31·3 | 45·5 | 59·6 | 13·7 | 7 45·48 | + 0·63 | +43·55 | +43·49 | 14 8 29·60 |
| | ε Bootis | 53·1 | 8·0 | 23·2 | 38·2 | 53·2 | 37 23·14 | + 0·57 | +43·44 | +43·50 | 14 38 7·21 |
| Nov. 29 | Sun 1 Limb | 55·2 | 10·8 | 24·2 | 38·6 | 53·0 | 18 24·36 | + 0·88 | ········ | +43·55 | 16 19 8·79 |
| | Sun 2 Limb | 15·3 | 30·0 | 44·4 | 58·8 | 13·0 | 20 44·30 | + 0·88 | ········ | +43·55 | 16 21 28·73 |
| | α Lyræ | 18·5 | 35·4 | 52·4 | 9·5 | 26·5 | 30 52·46 | + 0·44 | +43·41 | +43·65 | 18 31 36·55 |
| | β Lyræ | 0·4 | 16·2 | 32·1 | 48·0 | 3·8 | 43 32·10 | + 0·50 | +43·58 | +43·66 | 18 44 16·26 |
| | Jupiter 1 Limb | ······ | 28·8 | ······ | 57·8 | ······ | 34 43·30 | + 0·89 | ········ | +43·72 | 19 35 27·91 |
| | Jupiter 2 Limb | ······ | ······ | 45·6 | ······ | 14·3 | 34 45·61 | + 0·89 | ········ | +43·72 | 19 35 30·22 |
| | γ Aquilæ | 36·2 | 49·6 | 3·1 | 16·7 | 30·1 | 38 3·14 | + 0·68 | +43·58 | +43·73 | 19 38 47·55 |
| | α Aquilæ | 55·7 | 9·1 | 22·6 | 36·1 | 49·6 | 42 22·62 | + 0·68 | +43·81 | +43·74 | 19 43 7·04 |
| | ζ Cygni | 0·6 | 15·8 | 30·9 | 46·1 | 1·3 | 5 30·94 | + 0·53 | +43·93 | +43·80 | 21 6 15·27 |
| | 31 Capricorni | 15·8 | 30·0 | 43·8 | 57·6 | 11·8 | 8 43·80 | + 0·86 | ········ | +43·80 | 21 9 28·46 |
| | 78 Draconis | 58·8 | 41·0 | 23·2 | 5·4 | 47·5 | 40 23·18 | − 0·36 | ········ | +43·82 | 21 41 6·64 |
| | 78 Piscium | 7·3 | 22·7 | 38·2 | 53·8 | 9·4 | 58 38·28 | + 0·52 | ········ | +43·95 | 0 59 22·75 |
| | 45 Andromedæ | 6·4 | 23·0 | 39·7 | 56·2 | 12·9 | 1 39·64 | + 0·47 | ········ | +43·95 | 1 2 24·06 |
| | α Ursæ Minoris | 18·0 | 38·5 | 59·0 | 19·5 | ······ | 2 59·29 | −13·02 | ········ | +43·95 | 1 3 30·22 |
| | 38 Cassiopeæ | 42·8 | 20·0 | 58·0 | 36·2 | 14·2 | 18 58·24 | − 0·25 | ········ | +43·95 | 1 19 41·94 |
| | 40 Cassiopeæ | 59·0 | 42·5 | 26·2 | 9·6 | 53·3 | 25 26·12 | − 0·39 | ········ | +43·96 | 1 26 9·69 |
| | 42 Cassiopeæ | 54·6 | 32·8 | 11·4 | 50·2 | 28·5 | 30 11·50 | + 0·27 | ········ | +43·96 | 1 30 55·19 |
| | 2 Persei | 49·1 | 9·5 | 30·5 | 51·1 | 11·8 | 41 30·40 | + 0·30 | ········ | +43·96 | 1 42 14·66 |

| Date. | Object Observed. | Wire. I. | Wire. II. | Wire. III. | Wire. IV. | Wire. V. | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock observed. | Correction of Clock interpolated. | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Nov. 29 | 56 Andromedæ ······· | 35·8 | 52·2 | 8·7 | 25·3 | 41·8 | 46 8·76 | + 0·47 | ········· | +43·96 | 1 46 53·19 |
| | 49 Cassiopeæ ········· | 19·2 | 11·7 | 4·2 | 57·0 | 49·5 | 50 4·32 | − 0·66 | ········· | +43·97 | 1 50 47·63 |
| | 58 Andromedæ ······· | 46·4 | 3·2 | 19·8 | 36·5 | 53·2 | 58 19·82 | + 0·47 | ········· | +43·97 | 1 59 4·26 |
| | 59 Andromedæ, prc. | 7·0 | 23·6 | 40·5 | 57·6 | 14·5 | 0 40·64 | + 0·45 | ········· | +43·97 | 2 1 25·06 |
| | 60 Andromedæ ······· | 5·6 | 23·8 | 42·1 | 0·5 | 18·8 | 2 42·16 | + 0·39 | ········· | +43·97 | 2 3 26·52 |
| | δ Trianguli ············ | 15·3 | 31·1 | 47·2 | 3·1 | 19·0 | 6 47·14 | + 0·50 | ········· | +43·97 | 2 7 31·61 |
| | 63 Andromedæ ······· | 14·0 | 34·4 | 54·8 | 15·2 | 35·6 | 9 54·80 | + 0·32 | ········· | +43·98 | 2 10 39·10 |
| | 65 Andromedæ ······· | 28·6 | 9·0 | 29·4 | 50·0 | 10·3 | 14 29·46 | + 0·32 | ········· | +43·98 | 2 15 13·76 |
| | Piazzi II. 97 ·········· | 9·3 | 52·3 | 35·6 | 18·8 | 2·5 | 22 35·70 | − 0·40 | ········· | +43·98 | 2 23 19·28 |
| | 17 Persei ··············· | 37·4 | 53·4 | 9·5 | 25·5 | 41·7 | 41 9·50 | + 0·49 | ········· | +43·98 | 2 41 53·97 |
| | 21 Persei ··············· | 33·3 | 49·0 | 4·5 | 19·9 | 35·5 | 47 4·44 | + 0·52 | ········· | +43·99 | 2 47 48·95 |
| | Piazzi II. 237 ········ | 51·7 | 39·0 | 26·8 | 14·6 | 1·8 | 54 26·78 | − 0·52 | ········· | +43·99 | 2 55 10·25 |
| | ω Persei ··············· | 54·4 | 11·5 | 28·8 | 45·9 | 2·9 | 0 28·70 | + 0·45 | ········· | +44·00 | 3 1 13·15 |
| Nov. 30 | α Ophiuchi ············ | 26·5 | 40·1 | 53·6 | 7·3 | 21·0 | 26 53·70 | + 0·64 | +43·86 | +43·92 | 17 27 38·26 |
| | Venus 1 Limb ········ | 45·7 | 0·6 | 15·4 | 30·1 | 45·0 | 19 15·36 | + 0·91 | ········· | +43·95 | 18 20 0·22 |
| | δ Ursæ Minoris ······· | 26·5 | 9·5 | 53·0 | 37·5 | 21·0 | 21 53·50 | − 5·35 | ········· | +43·95 | 18 22 32·10 |
| | α Lyræ ················· | 17·7 | 34·8 | 51·7 | 8·8 | 25·9 | 30 51·78 | + 0·44 | +44·08 | +43·96 | 18 31 36·18 |
| | Jupiter 1 Limb ······· | 5·1 | ······ | 34·0 | ······ | 2·5 | 35 33·87 | + 0·87 | ········· | +43·99 | 19 36 18·73 |
| | Jupiter 2 Limb ······· | ······ | 22·1 | ······ | 50·5 | ······ | 35 36·30 | + 0·87 | ········· | +43·99 | 19 36 21·16 |
| | γ Aquilæ ··············· | 35·7 | 49·3 | 2·7 | 16·2 | 29·7 | 38 2·72 | + 0·67 | +44·00 | +44·00 | 19 38 47·39 |
| | α Aquilæ ··············· | 55·6 | 9·0 | 22·4 | 35·8 | 49·3 | 42 22·42 | + 0·68 | +44·00 | +44·00 | 19 43 7·10 |
| | ι Piscium ·············· | 42·1 | 55·4 | 8·7 | 22·1 | 35·5 | 31 8·76 | + 0·70 | +44·13 | +44·13 | 23 31 53·59 |
| | A.S.C. 2843 ·········· | 36·0 | 9·8 | 43·7 | 17·6 | 51·6 | 39 43·74 | − 0·13 | ········· | +44·13 | 23 40 27·74 |
| | Piazzi O. 128 ········· | 42·0 | 58·0 | 14·3 | 30·6 | 46·8 | 28 14·34 | + 0·48 | ········· | +44·14 | 0 28 58·96 |
| | ξ Cassiopeæ ··········· | 56·3 | 16·7 | 37·2 | 57·7 | 18·3 | 32 37·24 | + 0·31 | ········· | +44·14 | 0 33 21·69 |
| | 23 Cassiopeæ ········· | 6·5 | 54·8 | 43·0 | 31·3 | 19·4 | 36 43·00 | − 0·54 | ········· | +44·15 | 0 37 26·61 |
| | $\upsilon^1$ Cassiopeæ ·········· | 11·1 | 36·0 | 1·2 | 26·2 | 51·5 | 45 1·20 | + 0·15 | ········· | +44·15 | 0 45 45·50 |
| | 78 Piscium ············ | 7·0 | 22·2 | 37·9 | 53·5 | 9·1 | 58 37·94 | + 0·52 | ········· | +44·16 | 0 59 22·62 |
| | 45 Andromedæ ······· | 6·0 | 22·4 | 39·1 | 55·8 | 12·4 | 1 39·14 | + 0·46 | ········· | +44·16 | 1 2 23·76 |
| | α Ursæ Minoris ······ | ······ | 37·0 | 59·0 | 18·5 | ······ | 2 58·41 | −12·81 | ········· | +44·16 | 1 3 29·76 |
| | 38 Cassiopeæ ········· | 42·6 | 20·0 | 57·8 | 35·8 | 13·6 | 18 57·96 | − 0·23 | ········· | +44·16 | 1 19 41·89 |
| | 40 Cassiopeæ ········· | 58·6 | 42·0 | 25·5 | 9·2 | 52·6 | 25 25·58 | − 0·39 | ········· | +44·17 | 1 26 9·36 |
| | 42 Cassiopeæ ········· | 54·0 | 32·5 | 11·2 | 49·5 | 28·0 | 30 11·04 | − 0·25 | ········· | +44·17 | 1 30 54·96 |
| | 2 Persei ················ | 48·8 | 9·4 | 30·0 | 50·5 | 11·5 | 41 30·04 | + 0·30 | ········· | +44·17 | 1 42 14·51 |
| | Piazzi I. 200 ········· | 26·6 | 43·0 | 59·6 | 16·2 | 32·6 | 44 59·60 | + 0·47 | ········· | +44·17 | 1 45 44·24 |
| | 49 Cassiopeæ ········· | 18·8 | 11·0 | 3·7 | 56·5 | 49·0 | 50 3·80 | − 0·65 | ········· | +44·18 | 1 50 47·33 |
| | 5 Persei ················ | 5·7 | 30·2 | 54·5 | 19·0 | 43·5 | 59 54·58 | + 0·18 | ········· | +44·18 | 2 0 38·94 |
| | 60 Andromedæ ······· | 5·2 | 23·5 | 41·8 | 0·1 | 18·4 | 2 41·80 | + 0·39 | ········· | +44·18 | 2 3 26·37 |
| | δ Trianguli ············ | 15·0 | 30·8 | 47·0 | 2·8 | 18·7 | 6 46·86 | + 0·49 | ········· | +44·18 | 2 7 31·53 |
| | ω Persei ················ | 54·0 | 11·1 | 28·2 | 45·4 | 2·5 | 0 28·24 | + 0·45 | ········· | +44·20 | 3 1 12·89 |
| | Piazzi III. 27 ········ | 25·6 | 56·1 | 26·5 | 56·8 | 26·9 | 10 26·38 | − 0·01 | ········· | +44·21 | 3 11 10·58 |
| Dec. 1 | ζ Pegasi ················ | 26·6 | 40·1 | 53·6 | 7·1 | 20·4 | 32 53·56 | + 0·53 | +44·57 | +44·65 | 22 33 38·74 |
| | α Pegasi ················ | 44·8 | 58·5 | 12·2 | 25·8 | 39·6 | 56 12·18 | + 0·51 | +44·76 | +44·68 | 22 56 57·37 |
| | 2 Persei ················ | 48·2 | 8·8 | 29·3 | 50·0 | 10·6 | 41 29·38 | + 0·22 | ········· | +44·74 | 1 42 14·34 |
| Dec 2 | Mercury 2 Limb ····· | 53·2 | 7·3 | 21·3 | 35·4 | 49·5 | 40 21·34 | + 0·68 | ········· | +45·70 | 15 41 7·72 |
| Dec. 3 | Sun 1 Limb ············ | 10·3 | 24·6 | 38·6 | 53·4 | 7·6 | 35 38·90 | + 0·59 | ········· | +45·75 | 16 36 25·24 |
| | Sun 2 Limb ············ | 31·1 | 45·5 | 59·7 | 14·2 | 28·6 | 37 59·82 | + 0·59 | ········· | +45·75 | 16 38 46·16 |
| | α Ophiuchi ············ | 24·7 | 38·3 | 52·0 | 5·7 | 19·3 | 26 52·00 | + 0·42 | ········· | +45·79 | 17 27 38·21 |
| | Venus 1 Limb ········ | 48·7 | 3·2 | 17·8 | 32·7 | 47·3 | 17 17·94 | + 0·61 | ········· | +45·83 | 18 18 4·38 |
| | α Lyræ ················· | 16·1 | 33·2 | 50·2 | 7·3 | 24·3 | 30 50·22 | + 0·27 | +45·79 | +45·85 | 18 31 36·34 |
| | Jupiter 1 Limb ······· | ······ | 52·7 | ······ | 21·3 | ······ | 38 7·00 | + 0·59 | ········· | +45·90 | 19 38 53·49 |
| | Jupiter 2 Limb ······· | 40·4 | ······ | 9·1 | ······ | 38·0 | 38 9·17 | + 0·59 | ········· | +45·90 | 19 38 55·66 |
| | α Aquilæ ··············· | 53·9 | 7·3 | 20·7 | 34·1 | 47·6 | 42 20·72 | + 0·44 | +45·92 | +45·91 | 19 43 7·07 |
| | β Aquilæ ··············· | 22·7 | 36·1 | 49·5 | 2·8 | 16·2 | 46 49·46 | + 0·45 | +45·83 | +45·91 | 19 47 35·82 |

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 3 | 45 Andromedæ | 4·2 | 20·8 | 37·5 | 54·0 | 10·6 | 1 37·42 | + 0·29 | ......... | +46·14 | 1 2 23·85 |
| | α Ursæ Minoris | ...... | 30·0 | 52·0 | 11·0 | ...... | 2 51·24 | − 9·47 | ......... | +46·14 | 1 3 27·91 |
| | $\theta^1$ Ceti | 58·8 | 12·1 | 25·4 | 38·9 | 52·4 | 15 25·52 | + 0·53 | +46·15 | +46·15 | 1 16 12·20 |
| | 38 Cassiopeæ | 40·2 | 18·0 | 55·8 | 33·6 | 11·5 | 18 55·82 | − 0·23 | ......... | +46·15 | 1 19 41·74 |
| | 40 Cassiopeæ | 56·5 | 39·9 | 23·3 | 7·0 | 50·8 | 25 23·50 | − 0·33 | ......... | +46·15 | 1 26 9·32 |
| | 42 Cassiopeæ | 51·6 | 30·3 | 9·0 | 47·5 | 26·2 | 30 8·92 | − 0·24 | ......... | +46·15 | 1 30 54·83 |
| | 55 Andromedæ | 34·5 | 51·8 | 9·2 | 26·5 | 44·0 | 43 9·20 | + 0·26 | ......... | +46·16 | 1 43 55·62 |
| | Piazzi I. 200 | 24·7 | 41·2 | 57·8 | 14·2 | 30·8 | 44 57·74 | + 0·29 | ......... | +46·16 | 1 45 44·19 |
| | 49 Cassiopeæ | 16·8 | 9·4 | 1·8 | 54·6 | 47·2 | 50 1·96 | − 0·53 | ......... | +46·17 | 1 50 47·60 |
| | 5 Persei | 4·0 | 28·4 | 52·6 | 16·8 | 41·4 | 59 52·64 | + 0·07 | ......... | +46·17 | 2 0 38·88 |
| | 6 Persei | 46·4 | 7·3 | 28·1 | 48·8 | 9·9 | 2 28·10 | + 0·16 | ......... | +46·17 | 2 3 14·43 |
| | γ Trianguli | 43·7 | 59·8 | 15·5 | 31·4 | 47·2 | 7 15·52 | + 0·32 | ......... | +46·18 | 2 8 2·02 |
| | 63 Andromedæ | 11·8 | 32·2 | 52·7 | 13·1 | 33·6 | 9 52·68 | + 0·17 | ......... | +46·18 | 2 10 39·03 |
| | 65 Andromedæ | 46·3 | 6·8 | 27·3 | 47·8 | 8·3 | 14 27·30 | + 0·17 | ......... | +46·19 | 2 15 13·66 |
| | Piazzi II. 97 | 7·4 | 50·0 | 33·5 | 16·8 | 0·2 | 22 33·58 | − 0·33 | ......... | +46·19 | 2 23 19·44 |
| | 14 Persei | 32·6 | 50·8 | 9·3 | 27·7 | 46·1 | 33 9·30 | + 0·23 | ......... | +46·19 | 2 33 55·72 |
| | 21 Persei | 31·2 | 46·5 | 2·3 | 17·8 | 33·3 | 47 2·22 | + 0·32 | ......... | +46·20 | 2 47 48·74 |
| | Piazzi II. 220, pre. | 16·6 | 38·1 | 59·6 | 20·9 | 42·5 | 48 59·54 | + 0·15 | ......... | +46·20 | 2 49 45·89 |
| | Piazzi II. 237 | 49·3 | 36·8 | 24·4 | 12·1 | 59·6 | 54 24·44 | − 0·44 | ......... | +46·21 | 2 55 10·21 |
| | Piazzi III. 7 | 29·8 | 1·3 | 33·0 | 4·5 | 36·1 | 5 32·94 | − 0·09 | ......... | +46·22 | 3 6 19·07 |
| | Piazzi III. 23 | 39·6 | 55·5 | 11·6 | 27·5 | 43·5 | 8 11·54 | + 0·31 | ......... | +46·22 | 3 8 58·07 |
| | Piazzi III. 27 | 23·8 | 54·2 | 24·5 | 54·8 | 25·3 | 10 24·52 | − 0·07 | ......... | +46·23 | 3 11 10·68 |
| | Piazzi III. 57 | 34·9 | 57·3 | 21·0 | 44·2 | 7·4 | 17 21·06 | + 0·11 | ......... | +46·24 | 3 18 7·41 |
| | 36 Persei | 13·6 | 32·5 | 51·6 | 10·6 | 29·6 | 20 51·58 | + 0·21 | ......... | +46·24 | 3 21 38·03 |
| | Piazzi III. 94 | 55·3 | 24·2 | 53·1 | 22·1 | 51·1 | 27 53·16 | − 0·03 | ......... | +46·25 | 3 28 39·38 |
| | Piazzi III. 105 | 41·6 | 10·8 | 39·8 | 9·1 | 38·2 | 31 39·90 | − 0·03 | ......... | +46·25 | 3 32 26·12 |
| | Piazzi III. 177 | 57·4 | 26·5 | 55·3 | 24·2 | 53·1 | 42 55·30 | − 0·03 | ......... | +46·26 | 3 43 41·53 |
| Dec. 6 | α Ceti | 51·7 | 5·0 | 18·2 | 31·5 | 44·8 | 53 18·24 | + 0·57 | +47·81 | +47·81 | 2 54 6·62 |
| | Piazzi III. 23 | 37·9 | 53·7 | 9·7 | 25·6 | 41·5 | 8 9·68 | + 0·39 | ......... | +47·81 | 3 8 57·88 |
| | Piazzi III. 27 | 21·6 | 52·0 | 22·5 | 52·8 | 23·2 | 10 22·42 | − 0·03 | ......... | +47·82 | 3 11 10·21 |
| | 36 Persei | 11·8 | 30·6 | 49·6 | 8·6 | 27·7 | 20 49·66 | + 0·28 | ......... | +47·82 | 3 21 37·76 |
| | Piazzi III. 94 | 53·3 | 22·1 | 51·1 | 20·0 | 49·0 | 27 51·10 | + 0·01 | ......... | +47·82 | 3 28 38·93 |
| Dec. 8 | Moon 1 Limb | 55·8 | ...... | 23·1 | 36·8 | 50·6 | 12 23·13 | + 0·43 | ......... | +48·62 | 22 13 12·18 |
| | η Aquarii | 2·2 | 15·5 | 28·6 | 41·8 | 55·1 | 26 28·64 | + 0·41 | ......... | +48·63 | 22 27 17·68 |
| | ζ Pegasi | 22·5 | 36·0 | 49·6 | 3·1 | 16·6 | 32 49·56 | + 0·37 | +48·64 | +48·63 | 22 33 38·56 |
| | α Pegasi | 41·0 | 54·7 | 8·4 | 22·1 | 35·8 | 56 8·40 | + 0·36 | +48·61 | +48·64 | 22 56 57·40 |
| | ι Piscium | 37·8 | 51·1 | 4·4 | 17·8 | 31·1 | 31 4·44 | + 0·39 | +48·67 | +48·65 | 23 31 53·48 |
| | Uranus | 20·5 | 33·8 | 47·0 | 0·3 | 13·5 | 39 47·02 | + 0·41 | ......... | +48·65 | 23 40 36·08 |
| | 21 Cassiopeæ | 0·2 | 49·0 | 37·8 | 26·4 | 15·1 | 34 37·70 | − 0·30 | ......... | +48·67 | 0 35 26·07 |
| | α Ursæ Minoris | ...... | 23·5 | 41·5 | ...... | ...... | 2 43·56 | − 7·15 | ......... | +48·68 | 1 3 25·09 |
| Dec. 10 | $\upsilon^1$ Cassiopeæ | 4·8 | 30·3 | 55·2 | 20·5 | 45·7 | 44 55·30 | + 0·11 | ......... | +49·49 | 0 45 44·90 |
| | α Ursæ Minoris | ...... | ...... | ...... | 8·0 | 25·0 | 2 44·91 | −10·53 | ......... | +49·49 | 1 3 23·87 |
| | α Arietis | 3·2 | 17·4 | 32·0 | 46·5 | 0·9 | 57 32·00 | + 0·45 | +49·48 | +49·51 | 1 58 21·96 |
| | 62 Andromedæ | 44·3 | 3·8 | 23·1 | 42·6 | 2·0 | 8 23·16 | + 0·28 | ......... | +49·51 | 2 9 12·95 |
| | Piazzi II. 191 | 32·0 | 40·3 | 48·6 | 57·0 | 5·6 | 44 48·70 | − 0·91 | ......... | +49·52 | 2 45 37·31 |
| | α Ceti | 49·9 | 3·1 | 16·5 | 29·8 | 43·2 | 53 16·50 | + 0·57 | +49·54 | +49·52 | 2 54 6·59 |
| | 34 Persei | 42·9 | 2·9 | 23·2 | 43·6 | 3·9 | 17 23·30 | + 0·24 | ......... | +49·53 | 3 18 13·07 |
| | 36 Persei | 10·3 | 29·1 | 48·1 | 7·2 | 26·1 | 20 48·16 | + 0·28 | ......... | +49·53 | 3 21 37·97 |
| | Piazzi III. 104 | 34·8 | 51·6 | 8·4 | 25·1 | 41·6 | 30 8·30 | + 0·36 | ......... | +49·53 | 3 30 58·19 |
| | Piazzi III. 121 | 24·5 | 55·8 | 27·6 | 59·1 | 30·5 | 34 27·50 | − 0·06 | ......... | +49·53 | 3 35 16·97 |
| | Piazzi III. 160 | 49·5 | 8·6 | 26·8 | 45·0 | 4·0 | 43 26·78 | − 1·16 | ......... | +49·53 | 3 44 15·15 |
| Dec. 12 | α Aquilæ | 50·3 | 3·6 | 17·0 | 30·4 | 43·8 | 42 17·02 | + 0·43 | +49·59 | +49·59 | 19 43 7·04 |
| | α Cygni | 36·9 | 55·6 | 14·3 | 32·9 | 51·6 | 35 14·26 | + 0·25 | ......... | +49·57 | 20 36 4·08 |
| | α Andromedæ | 58·0 | 13·2 | 28·2 | 43·1 | 58·3 | 59 28·16 | + 0·35 | +49·49 | +49·52 | 0 0 18·03 |

| Date. | Object Observed. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 12 | γ Pegasi | 53·1 | 6·8 | 20·6 | 34·1 | 48·0 | 4 20·52 | + 0·41 | +49·54 | +49·52 | 0 5 10·45 |
| | 21 Cassiopeæ | 59·3 | 47·8 | 36·3 | 25·0 | 13·7 | 34 36·42 | − 0·30 | ......... | +49·55 | 0 35 25·67 |
| | δ Piscium | 17·0 | 30·3 | 43·5 | 57·0 | 10·3 | 39 43·62 | + 0·44 | ......... | +49·56 | 0 40 33·62 |
| | $\upsilon^1$ Cassiopeæ | 5·4 | 30·2 | 55·4 | 20·6 | 45·9 | 44 55·50 | + 0·11 | ......... | +49·56 | 0 45 45·17 |
| | ε Piscium | 32·4 | 45·8 | 59·2 | 12·5 | 25·9 | 53 59·16 | + 0·44 | ......... | +49·57 | 0 54 49·17 |
| | 78 Piscium | 1·4 | 16·9 | 32·6 | 48·1 | 3·6 | 58 32·52 | + 0·33 | ......... | +49·58 | 0 59 22·43 |
| | α Ursæ Minoris | ...... | ...... | 39·0 | 1·5 | 24·0 | 2 40·80 | − 7·72 | ......... | +49·58 | 1 3 22·66 |
| | Moon 1 Limb | 48·4 | 2·2 | 16·1 | 30·0 | 44·0 | 12 16·14 | + 0·41 | ......... | +49·59 | 1 13 6·14 |
| | η Piscium | 49·3 | 3·1 | 17·0 | 30·7 | 44·3 | 22 16·88 | + 0·41 | ......... | +49·60 | 1 23 6·89 |
| | 40 Cassiopeæ | 52·4 | 36·0 | 19·5 | 3·2 | 46·6 | 25 19·54 | − 0·21 | ......... | +49·61 | 1 26 8·94 |
| | 52 Casiopeæ | 27·4 | 58·0 | 28·3 | 58·7 | 29·2 | 50 28·32 | + 0·02 | ......... | +49·64 | 1 51 17·98 |
| | α Arietis | 3·2 | 17·5 | 31·8 | 46·3 | 0·7 | 57 31·90 | + 0·37 | +49·65 | +49·65 | 1 58 21·92 |
| | 6 Persei | 42·8 | 3·6 | 24·4 | 45·2 | 6·1 | 2 24·42 | + 0·20 | ......... | +49·65 | 2 3 14·27 |
| | Piazzi III. 27 | 20·2 | 50·6 | 20·8 | 51·2 | 21·7 | 10 20·90 | + 0·02 | ......... | +49·70 | 3 11 10·62 |
| | Piazzi III. 94 | 51·5 | 20·7 | 49·6 | 18·5 | 47·3 | 27 49·52 | + 0·04 | ......... | +49·72 | 3 28 39·28 |
| Dec. 13 | $\upsilon^2$ Cassiopeæ | 42·4 | 7·7 | 33·0 | 58·3 | 23·7 | 46 33·02 | + 0·01 | ......... | +50·03 | 0 47 23·06 |
| | α Ursæ Minoris | ...... | 18·0 | 38·5 | ...... | ...... | 2 39·35 | − 7·41 | ........ | +50·03 | 1 3 21·97 |
| | η Piscium | ...... | 3·0 | 16·5 | 30·2 | 44·0 | 22 16·57 | + 0·29 | ......... | +50·03 | 1 23 6·89 |
| | α Arietis | 3·0 | 17·2 | 31·6 | 46·0 | ...... | 57 31·65 | + 0·26 | +50·00 | +50·03 | 1 58 21·94 |
| | Moon 1 Limb | 2·0 | 16·4 | 30·6 | 44·9 | ...... | 1 30·67 | + 0·28 | ......... | +50·03 | 2 2 20·98 |
| | γ Trianguli | 39·9 | 55·9 | 12·0 | 27·7 | 43·8 | 7 11·86 | + 0·20 | ......... | +50·03 | 2 8 2·09 |
| | ψ Arietis | 56·6 | 10·2 | 24·2 | 38·0 | 51·8 | 21 24·16 | + 0·28 | ......... | +50·03 | 2 22 14·47 |
| | π Arietis | 16·5 | 30·2 | 44·2 | 58·2 | 12·3 | 39 44·28 | + 0·28 | ......... | +50·03 | 2 40 34·59 |
| | η Tauri | 53·0 | 7·2 | 21·5 | 36·2 | 50·6 | 37 21·70 | + 0·25 | +50·11 | +50·03 | 3 38 11·98 |
| | α Tauri | 39·6 | 53·2 | 7·0 | 21·2 | 34·8 | 26 7·16 | + 0·29 | +49·96 | +50·03 | 4 26 57·48 |
| Dec. 16 | α Cygni | 36·4 | 55·1 | 13·8 | 32·4 | 51·2 | 35 13·78 | + 0·16 | ......... | +50·13 | 20 36 4·07 |
| | ζ Cygni | 54·2 | 9·5 | 24·8 | 40·1 | 55·5 | 5 24·82 | + 0·24 | +50·12 | +50·12 | 21 6 15·18 |
| | γ Pegasi | 52·6 | 6·2 | 20·1 | 33·8 | 47·6 | 4 20·06 | + 0·31 | +50·06 | +50·06 | 0 5 10·43 |
| | $\upsilon^2$ Cassiopeæ | 42·3 | 7·5 | 33·0 | 58·4 | 23·7 | 46 32·98 | + 0·03 | ......... | +50·05 | 0 47 23·06 |
| | 31 Cassiopeæ | 8·5 | 43·8 | 19·4 | 54·8 | 29·5 | 59 19·20 | − 0·16 | ......... | +50·04 | 0 0 9·08 |
| | α Ursæ Minoris | ...... | 16·5 | 38·0 | 57·0 | ...... | 2 37·41 | − 7·50 | ......... | +50·04 | 1 3 19·95 |
| | 52 Persei | 51·0 | 8·4 | 25·6 | 43·0 | 0·5 | 3 25·70 | + 0·19 | ......... | +49·97 | 4 4 15·86 |
| | 53 Persei | 47·4 | 6·7 | 25·9 | 44·9 | 4·4 | 9 25·86 | + 0·14 | ......... | +49·97 | 4 10 15·97 |
| | $\upsilon^1$ Tauri | 38·4 | 52·8 | ...... | 21·4 | 36·1 | 16 7·18 | + 0·28 | ......... | +49·97 | 4 16 57·43 |
| | Piazzi IV. 170 | 41·2 | 10·6 | 40·0 | 9·4 | 39·0 | 36 40·04 | − 0·05 | ......... | +49·98 | 4 37 29·97 |
| | Moon 1 Limb | 49·5 | 4·2 | 19·5 | 34·1 | 49·6 | 50 19·38 | + 0·27 | ......... | +49·99 | 4 51 9·64 |
| Dec. 17 | Sun 1 Limb | 38·6 | 53·0 | 7·4 | 22·0 | 36·5 | 37 7·50 | + 0·35 | ......... | +49·66 | 17 37 57·51 |
| | Sun 2 Limb | 0·5 | 15·2 | 29·7 | 44·2 | 59·0 | 39 29·72 | + 0·35 | ......... | +49·66 | 17 40 19·73 |
| | δ Ursæ Minoris | 15·0 | 58·5 | 42·0 | 26·0 | 10·0 | 21 42·30 | − 1·50 | ......... | +49·67 | 18 22 30·47 |
| | α Lyræ | 12·4 | 29·4 | 46·4 | 3·3 | 20·4 | 30 46·38 | + 0·22 | +49·64 | +49·67 | 18 31 36·27 |
| | γ Aquilæ | 30·3 | 43·8 | 57·3 | 10·8 | 24·4 | 37 57·32 | + 0·29 | +49·71 | +49·67 | 19 38 47·28 |
| | α Aquilæ | 50·2 | 3·6 | 17·0 | 30·4 | 43·8 | 42 17·00 | + 0·28 | +49·75 | +49·67 | 19 43 6·95 |
| | Uranus | 34·8 | 48·0 | 1·3 | 14·5 | 27·7 | 40 1·26 | + 0·30 | ......... | +49·71 | 23 40 51·27 |
| | Piazzi O. 118 | 52·8 | 15·1 | 37·5 | 59·6 | 21·9 | 26 37·38 | + 0·15 | ......... | +49·71 | 0 27 27·24 |
| | 21 Cassiopeæ | 59·0 | 47·5 | 36·2 | 24·8 | 13·5 | 34 36·20 | − 0·08 | ......... | +49·70 | 0 35 25·82 |
| | $\upsilon^2$ Cassiopeæ | 42·8 | 8·3 | 33·8 | 59·2 | 24·5 | 46 33·72 | + 0·13 | ......... | +49·70 | 0 47 23·55 |
| | Piazzi II. 97 | 3·2 | 46·3 | 29·6 | 12·8 | 56·2 | 22 29·62 | − 0·03 | ......... | +49·69 | 2 23 19·28 |
| | Piazzi III. 7 | 26·6 | 57·8 | 29·3 | 0·7 | 32·5 | 5 29·38 | − 0·03 | ......... | +49·69 | 3 6 19·04 |
| | Piazzi III. 27 | 20·4 | 50·6 | 21·1 | 51·4 | 21·8 | 10 21·06 | + 0·08 | ......... | +49·69 | 3 11 10·83 |
| | Piazzi III. 57 | 30·9 | 54·4 | 17·8 | 41·0 | 4·0 | 17 17·62 | + 0·15 | ......... | +49·68 | 3 18 7·45 |
| | Piazzi III. 104 | 35·2 | 51·7 | 8·5 | 25·1 | 41·7 | 30 8·44 | + 0·22 | ......... | +49·68 | 3 30 58·34 |
| | Piazzi III. 208 | 47·3 | 13·1 | 38·7 | 4·5 | 30·0 | 50 38·72 | + 0·08 | ......... | +49·68 | 3 51 28·48 |
| | 50 Persei | 49·0 | 5·8 | 22·7 | 39·5 | 56·0 | 57 22·60 | + 0·22 | ......... | +49·68 | 3 58 12·50 |
| | 5 Aurigæ | 10·3 | 27·4 | 44·5 | 1·6 | 18·6 | 48 44·48 | + 0·22 | ......... | +49·68 | 4 49 34·38 |
| | 9 Aurigæ | 55·0 | 16·2 | 37·4 | 58·5 | 20·5 | 53 37·52 | + 0·17 | ......... | +49·68 | 4 54 27·37 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 17 | 14 Camelopardi······· | 13·6 | 42·4 | 11·2 | 39·9 | 8·8 | 58 11·18 | + 0·10 | ········· | +49·67 | 4 59 0·95 |
|  | α Aurigæ··············· | 41·3 | 0·2 | 19·5 | 38·5 | 57·7 | 4 19·44 | + 0·19 | ········· | +49·67 | 5 5 9·30 |
|  | β Orionis··············· | 45·1 | 58·5 | 11·8 | 25·4 | 38·8 | 6 11·92 | + 0·32 | +49·69 | +49·67 | 5 7 1·91 |
|  | β Tauri ··············· | 4·8 | 19·9 | 35·0 | 50·1 | 5·3 | 15 35·02 | + 0·24 | +49·66 | +49·67 | 5 16 24·93 |
|  | ζ Tauri··················· | 0·1 | 14·3 | 28·6 | 42·9 | ······ | 27 28·60 | + 0·26 | ········· | +49·66 | 5 28 18·52 |
|  | (a) Moon 1 Limb········· | 31·2 | 46·1 | 1·2 | 16·2 | 31·3 | 52 1·20 | + 0·26 | ········· | +49·66 | 5 52 51·12 |
|  | Moon 2 Limb····· ··· | 56·0 | 11·0 | 25·9 | 41·0 | 56·1 | 54 26·00 | + 0·26 | ········· | +49·66 | 5 55 15·92 |
|  | ε Geminorum ········· | 59·6 | 14·4 | 29·0 | 43·6 | 58·3 | 33 28·98 | + 0·25 | ········· | +49·64 | 6 34 18·87 |
| Dec. 18 | μ Geminorum········· | 12·0 | 26·5 | 41·0 | 55·4 | 9·8 | 12 40·94 | + 0·34 | +48·92 | +48·97 | 6 13 30·25 |
|  | δ Ursæ Minoris S.P. | 9·5 | 53·0 | 37·0 | 21·5 | 5·0 | 21 37·20 | + 4·20 | ········· | +48·97 | 6 22 30·37 |
|  | ε Geminorum ········· | 0·1 | 14·8 | 29·4 | 44·0 | 58·7 | 33 29·40 | + 0·34 | ········· | +48·98 | 6 34 18·72 |
|  | α Canis Majoris······· | 59·0 | 13·0 | 26·5 | 40·6 | 54·3 | 37 26·68 | + 0·51 | +48·89 | +48·98 | 6 38 16·17 |
|  | Moon 2 Limb········· | 49·1 | 4·0 | 18·8 | 33·5 | 48·3 | 56 18·74 | + 0·34 | ········· | +49·00 | 6 57 8·08 |
|  | δ Geminorum ········· | 20·0 | 43·3 | 57·5 | 11·9 | 26·3 | 9 57·60 | + 0·34 | +49·03 | +49·00 | 7 10 46·94 |
|  | α² Geminorum ······· | 16·2 | 32·0 | 47·6 | 3·4 | 19·1 | 23 47·66 | + 0·30 | +49·18 | +49·01 | 7 24 36·97 |
|  | α Canis Minoris······ | 50·8 | 4·1 | 17·4 | 30·8 | 44·2 | 30 17·46 | + 0·42 | +49·08 | +49·02 | 7 31 6·90 |
|  | κ Geminorum········· | 41·5 | 56·2 | 10·9 | 25·6 | 40·1 | 34 10·86 | + 0·34 | ········· | +49·02 | 7 35 0·22 |
| Dec. 22 | α Cygni················· | 38·8 | 57·5 | ······ | 34·7 | 53·7 | 35 16·18 | + 0·14 | ········· | +47·60 | 20 36 3·92 |
|  | α Andromedæ········· | 0·1 | 14·9 | 30·0 | 45·1 | 0·3 | 59 30·08 | + 0·22 | +47·56 | +47·58 | 0 0 17·88 |
|  | Piazzi O. 118 ········· | 55·0 | 17·1 | 39·4 | 1·6 | 23·9 | 26 39·40 | + 0·08 | ········· | +47·58 | 0 27 27·06 |
|  | 21 Cassiopeæ ········· | 0·8 | 49·4 | 38·0 | 26·5 | 15·2 | 34 37·98 | − 0·31 | ········· | +47·57 | 0 35 25·24 |
|  | 31 Cassiopeæ·········· | 10·5 | 46·0 | 21·3 | 57·0 | 32·4 | 59 21·44 | − 0·15 | ········· | +47·57 | 1 0 8·86 |
|  | α Ursæ Minoris······· | 52·5 | 13·0 | ······ | 56·0 | ······ | 2 34·47 | − 6·29 | ········· | +47·57 | 1 3 15·75 |
|  | Piazzi I. 9············· | 6·5 | 25·1 | 43·8 | 2·4 | 21·0 | 2 43·76 | + 0·14 | ········· | +47·57 | 1 3 31·47 |
|  | θ¹ Ceti ················· | 57·3 | 10·7 | 24·1 | 37·5 | 50·8 | 15 24·08 | + 0·34 | +47·60 | +47·56 | 1 16 11·98 |
|  | υ Andromedæ········· | 53·4 | 11·3 | 29·1 | 47·0 | 4·8 | 31 29·12 | + 0·17 | ········· | +47·56 | 1 32 16·85 |
|  | Piazzi III. 57········· | 33·4 | 56·3 | 19·2 | 42·5 | 5·8 | 17 19·44 | + 0·06 | ········· | +47·54 | 3 18 7·04 |
|  | Piazzi III. 94········· | 54·1 | 23·0 | 51·9 | 20·8 | 49·5 | 27 51·86 | − 0·02 | ········· | +47·54 | 3 28 39·38 |
|  | α Tauri ··············· | 42·1 | 55·8 | 9·5 | 23·3 | 37·2 | 26 9·58 | + 0·26 | +47·52 | +47·52 | 4 26 57·36 |
|  | 59 Persei··············· | 25·9 | 44·2 | 2·4 | 20·7 | 38·8 | 31 2·40 | + 0·15 | ········· | +47·52 | 4 31 50·07 |
|  | α Aurigæ··············· | 43·5 | 2·5 | 21·6 | 40·8 | 59·9 | 4 21·66 | + 0·13 | ········· | +47·50 | 5 5 9·29 |
|  | Venus 2 Limb········ | 34·6 | 49·1 | 3·3 | 17·4 | 31·5 | 35 3·18 | + 0·38 | ········· | +46·76 | 17 35 50·32 |
| Dec. 23 | Sun 1 Limb··········· | 19·8 | 34·3 | 49·0 | 3·4 | 17·8 | 3 48·86 | + 0·46 | ········· | +46·74 | 18 4 36·06 |
|  | Sun 2 Limb··········· | 42·3 | 56·8 | 11·2 | 25·8 | 40·3 | 6 11·28 | + 0·46 | ········· | +46·74 | 18 6 58·48 |
|  | δ Ursæ Minoris ······· | 17·0 | 1·0 | 44·5 | 29·0 | 13·0 | 21 44·90 | − 1·93 | ········· | +46·73 | 18 22 29·70 |
|  | α Lyræ ················· | 15·2 | 32·2 | 49·3 | 6·3 | 23·3 | 30 49·26 | + 0·29 | +46·71 | +46·73 | 18 31 36·28 |
|  | β Lyræ·················· | 57·3 | 13·2 | 29·0 | 45·0 | 0·9 | 43 29·08 | + 0·32 | +46·73 | +46·72 | 18 44 16·12 |
|  | α Cygni ················ | 39·6 | 58·4 | 16·9 | 35·5 | 54·4 | 35 16·96 | + 0·26 | ········· | +46·68 | 20 36 3·90 |
|  | 31 Cassiopeæ ········· | 11·4 | 47·0 | 22·2 | 57·8 | 33·2 | 59 22·32 | + 0·06 | ········· | +46·62 | 1 0 9·00 |
|  | α Ursæ Minoris······· | ······ | ······ | 34·0 | 58·0 | 19·0 | 2 36·12 | − 4·77 | ········· | +46·62 | 1 3 17·97 |
|  | θ¹ Ceti ········ ········· | 58·0 | 11·5 | 25·0 | 38·4 | 52·0 | 15 24·98 | + 0·43 | +46·60 | +46·60 | 1 16 12·01 |
|  | γ Ceti·· ················· | 58·4 | 11·8 | 25·1 | 38·3 | 51·8 | 34 25·08 | + 0·40 | +46·60 | +46·60 | 2 35 12·08 |
|  | Piazzi II. 191········· | 35·0 | 43·2 | 51·6 | 59·8 | 8·2 | 44 51·56 | − 0·30 | ········· | +46·59 | 2 45 37·85 |
|  | Piazzi II. 237········· | 48·3 | 36·1 | 23·6 | 11·3 | 59·0 | 54 23·66 | − 0·07 | ········· | +46·59 | 2 55 10·18 |
|  | Piazzi III. 7·········· | 29·4 | 0·9 | 32·5 | 4·1 | 35·5 | 5 32·48 | + 0·11 | ········· | +46·59 | 3 6 19·18 |
|  | Piazzi III. 28········· | 22·2 | 42·2 | 2·2 | 22·3 | 42·4 | 10 2·26 | + 0·24 | ········· | +46·59 | 3 10 49·09 |
|  | 34 Persei··············· | 46·0 | 6·1 | 26·2 | 46·5 | 6·9 | 17 26·34 | + 0·24 | ········· | +46·59 | 3 18 13·17 |
|  | Piazzi II I94········· | 54·7 | 23·8 | 52·6 | 21·5 | 50·6 | 27 52·64 | + 0·14 | ········· | +46·58 | 3 28 39·36 |
|  | Piazzi III. 105······· | 41·2 | 10·4 | 39·6 | 8·7 | 37·6 | 31 39·50 | + 0·14 | ········· | +46·58 | 3 32 26·22 |
|  | Piazzi III. 121 ······· | 27·6 | 59·1 | 30·5 | 2·2 | 33·5 | 34 30·58 | + 0·10 | ········· | +46·58 | 3 35 17·26 |
|  | 42 Persei··············· | 22·2 | 37·8 | 53·8 | 9·6 | 25·4 | 38 53·76 | + 0·31 | ········· | +46·58 | 3 39 40·65 |
|  | Piazzi III. 177 · ····· | 57·4 | 26·2 | 55·1 | 23·9 | 52·9 | 42 55·10 | − 0·14 | ········· | +46·58 | 3 43 41·54 |
|  | λ Persei ················ | 30·1 | 50·8 | 11·3 | 31·9 | 52·6 | 54 11·34 | + 0·24 | ········· | +46·58 | 3 54 58·16 |
|  | 50 Persei··············· | 52·0 | 9·0 | 25·8 | 42·4 | 59·3 | 57 25·70 | + 0 29 | ····· ··· | +46·57 | 3 58 12·56 |
|  | Piazzi IV. 7·········· | 2·4 | 24·2 | 46·7 | 8·8 | 31·0 | 3 46·62 | + 0·21 | ········· | +46·57 | 4 4 33·40 |

(a) Unenlightened limb.

| Date. | OBJECT OBSERVED. | Wire. | | | | | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock | | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | III. | IV. | V. | | | observed. | interpolated. | |
| | | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 23 | Piazzi IV. 22 | 34·6 | 1·3 | 28·2 | 55·1 | 22·0 | 7 28·24 | + 0·15 | ......... | +46·57 | 4 8 14·96 |
| | 55 Persei | 2·6 | 18·4 | 34·4 | 50·3 | 6·6 | 13 34·46 | + 0·31 | ......... | +46·57 | 4 14 21·34 |
| | 58 Persei | 30·6 | 48·1 | 5·9 | 23·4 | 41·0 | 25 5·80 | + 0·28 | ......... | +46·56 | 4 25 52·64 |
| | 59 Persei | 27·0 | 45·1 | 3·2 | 21·5 | 39·7 | 31 3·30 | + 0·28 | ......... | +46·56 | 4 31 50·14 |
| | 4 Camelopardi | 26·2 | 50·2 | 14·4 | 38·4 | 2·6 | 34 14·36 | + 0·20 | ......... | +46·56 | 4 35 1·12 |
| | Piazzi IV. 170 | 45·0 | 14·5 | 44·0 | 13·4 | 43·1 | 36 44·00 | + 0·13 | ......... | +46·56 | 4 37 30·69 |
| | 2 Aurigæ | 51·1 | 7·5 | 24·0 | 40·6 | 57·1 | 41 24·06 | + 0·30 | ......... | +46·55 | 4 42 10·91 |
| | 5 Aurigæ | 13·4 | 30·6 | 47·6 | 4·8 | 22·0 | 48 47·68 | + 0·28 | ......... | +46·55 | 4 49 34·51 |
| | 9 Aurigæ | 58·2 | 19·5 | 40·7 | 1·9 | 23·2 | 53 40·70 | + 0·23 | ......... | +46·55 | 4 54 27·48 |
| | Venus 2 Limb | 16·0 | 30·1 | 44·3 | 58·3 | 12·5 | 32 44·24 | + 0·45 | ......... | +46·01 | 17 33 30·70 |
| Dec. 24 | Sun 1 Limb | 47·4 | 1·8 | 16·4 | 31·0 | 45·7 | 8 16·46 | + 0·51 | ......... | +45·99 | 18 9 2·96 |
| | Sun 2 Limb | 9·8 | 24·2 | 38·8 | 53·3 | 8·0 | 10 38·82 | + 0·51 | ......... | +45·99 | 18 11 25·32 |
| | δ Ursæ Minoris | 19·0 | 2·0 | 46·0 | 29·5 | 13·5 | 21 46·00 | − 2·20 | ......... | +45·98 | 18 22 29·78 |
| | α Lyræ | 16·1 | 33·1 | 50·0 | 7·1 | 24·1 | 30 50·08 | + 0·32 | +45·87 | +45·98 | 18 31 36·38 |
| | α Aquilæ | 53·9 | 7·2 | 20·6 | 34·0 | 47·5 | 42 20·64 | + 0·34 | +46·06 | +45·95 | 19 43 6·93 |
| | ζ Cygni | 58·4 | 13·7 | 28·9 | 44·2 | 59·5 | 5 28·94 | + 0·35 | +45·82 | +45·90 | 21 6 15·19 |
| | Piazzi O. 128 | 40·4 | 56·5 | 12·7 | 28·9 | 45·0 | 28 12·70 | + 0·34 | ......... | +45·84 | 0 28 58·88 |
| | 23 Cassiopeæ | 4·1 | 52·1 | 40·2 | 28·0 | 16·3 | 36 40·14 | − 0·11 | ......... | +45·83 | 0 37 25·86 |
| | 31 Cassiopeæ | 12·2 | 47·6 | 33·2 | 58·6 | 33·9 | 59 23·10 | + 0·05 | ......... | +45·82 | 1 0 8·97 |
| | Piazzi I. 9 | 8·3 | 26·8 | 45·3 | 3·9 | 22·6 | 2 45·38 | + 0·29 | ......... | +45·82 | 1 3 31·49 |
| | $\theta^1$ Ceti | 58·8 | 12·2 | 25·6 | 39·1 | 52·5 | 15 25·64 | + 0·47 | +45·89 | +45·81 | 1 16 11·92 |
| | 49 Andromedæ | 20·1 | 39·1 | 58·5 | 17·8 | 37·0 | 19 58·50 | + 0·28 | ......... | +45·81 | 1 20 44·59 |
| | 42 Cassiopeæ | 51·5 | 29·7 | 8·5 | 47·1 | 25·8 | 30 8·52 | + 0·02 | ......... | +45·80 | 1 30 54·34 |
| | Piazzi II. 97 | 6·5 | 49·8 | 33·2 | 16·4 | 59·8 | 22 33·14 | − 0·04 | ......... | +45·78 | 2 23 18·88 |
| | 14 Persei | 32·8 | 51·2 | 9·5 | 27·8 | 46·2 | 33 9·50 | + 0·29 | ......... | +45·77 | 2 33 55·56 |
| | Piazzi II. 191 | 35·6 | 44·0 | 51·8 | 0·6 | 9·3 | 44 52·26 | − 0·35 | ......... | +45·76 | 2 45 37·67 |
| | Piazzi II. 220, pre. | 16·8 | 38·5 | 59·8 | 21·2 | 42·7 | 48 59·80 | + 0·25 | ......... | +45·76 | 2 49 45·81 |
| | Piazzi II. 237 | 49·4 | 36·6 | 24·6 | 12·2 | 59·7 | 54 24·50 | − 0·10 | ......... | +45·75 | 2 55 10·15 |
| | Piazzi III. 7 | 30·1 | 1·7 | 33·1 | 4·6 | 36·4 | 5 33·18 | + 0·11 | ......... | +45·74 | 3 6 19·03 |
| | Piazzi III. 23 | 40·0 | 56·0 | 12·0 | 27·9 | 43·9 | 8 11·96 | + 0·34 | ......... | +45·74 | 3 8 58·04 |
| | 34 Persei | 46·7 | 6·9 | 27·0 | 47·2 | 7·5 | 17 27·06 | + 0·27 | ......... | +45·73 | 3 18 13·06 |
| | Piazzi III. 104 | 39·0 | 55·6 | 12·2 | 28·8 | 45·5 | 30 12·22 | + 0·32 | ......... | +45·72 | 3 30 58·26 |
| | Piazzi III. 111 | 52·2 | 32·5 | 13·1 | 53·5 | 34·3 | 33 13·12 | − 0·01 | ......... | +45·72 | 3 33 58·83 |
| | 42 Persei | 22·9 | 38·2 | 54·5 | 10·4 | 26·0 | 38 54·40 | + 0·35 | ......... | +45·71 | 3 39 40·46 |
| | Piazzi III. 177 | 58·0 | 26·8 | 55·8 | 24·5 | 53·6 | 42 55·74 | + 0·14 | ......... | +45·70 | 3 43 41·58 |
| | $\gamma^1$ Eridani | 31·0 | 44·7 | 58·3 | 11·9 | 25·7 | 49 58·32 | + 0·49 | +45·63 | +45·70 | 3 50 44·51 |
| | λ Persei | 30·8 | 51·4 | 12·0 | 32·6 | 53·3 | 54 12·02 | + 0·26 | ......... | +45·69 | 3 54 57·97 |
| | 2 Camelopardi | 6·1 | 28·4 | 50·5 | 12·7 | 34·8 | 26 50·50 | + 0·24 | ......... | +45·67 | 4 27 36·41 |
| | 59 Persei | 27·6 | 45·8 | 4·0 | 22·1 | 40·2 | 31 3·94 | + 0·30 | ......... | +45·67 | 4 31 49·91 |
| | 4 Camelopardi | 26·5 | 50·8 | 15·0 | 39·2 | 3·3 | 34 14·96 | + 0·22 | ......... | +45·66 | 4 35 0·84 |
| | Piazzi IV. 170 | 45·6 | 15·0 | 44·5 | 14·1 | 43·7 | 36 44·58 | + 0·14 | ......... | +45·66 | 4 37 30·38 |
| | 2 Aurigæ | 51·7 | 8·2 | 24·8 | 41·4 | 57·9 | 41 24·80 | + 0·33 | ......... | +45·66 | 4 42 10·79 |
| | 5 Aurigæ | 14·0 | 31·1 | 48·3 | 5·4 | 22·6 | 48 48·28 | + 0·32 | ......... | +45·65 | 4 49 34·25 |
| | 9 Aurigæ | 58·9 | 20·1 | 41·4 | 2·5 | 23·8 | 53 41·34 | + 0·25 | ......... | +45·65 | 4 54 27·24 |
| | 14 Camelopardi | 17·6 | 46·2 | 15·0 | 43·7 | 12·6 | 58 15·02 | + 0·14 | ......... | +45·65 | 4 59 0·81 |
| | Piazzi IV. 311 | 31·5 | 35·7 | 40·3 | 45·0 | 50·2 | 3 40·54 | − 0·30 | ......... | +45·64 | 5 4 25·88 |
| Dec. 26 | α Aquilæ | 54·8 | 8·2 | 21·6 | 35·1 | 48·5 | 42 21·64 | + 0·49 | +44·91 | +44·92 | 19 43 7·05 |
| | 55 Persei | 4·0 | 20·1 | 36·1 | 52·1 | 8·1 | 13 36·08 | + 0·35 | ......... | +44·92 | 4 14 21·35 |
| | 4 Camelopardi | 27·2 | 51·6 | 15·8 | 39·9 | 4·0 | 34 15·70 | + 0·11 | ........ | +44·92 | 4 35 0·73 |
| | Piazzi IV. 170 | 46·2 | 16·0 | 45·5 | 14·9 | 44·4 | 36 45·40 | − 0·04 | ......... | +44·92 | 4 37 30·28 |
| | 2 Aurigæ | 52·6 | 9·0 | 25·6 | 42·1 | 58·0 | 41 25·46 | + 0·32 | ......... | +44·92 | 4 42 10·70 |
| | α Aurigæ | 45·9 | 5·0 | 24·0 | 43·1 | 2·3 | 4 24·06 | + 0·23 | ......... | +44·92 | 5 5 9·21 |
| | β Orionis | 49·8 | 3·2 | 16·5 | 29·9 | 43·3 | 6 16·54 | + 0·58 | +44·85 | +44·92 | 5 7 2·04 |
| | β Tauri | 9·4 | 24·5 | 39·6 | 54·7 | 9·9 | 15 39·62 | + 0·38 | +45·00 | +44·92 | 5 16 24·92 |
| | η Bootis | 59·6 | 13·6 | 27·7 | 41·5 | 55·8 | 46 27·64 | + 0·48 | +44·86 | +44·85 | 13 47 12·97 |
| | ϰ Virginis | 20·0 | 33·3 | 46·7 | 0·3 | 13·6 | 3 46·78 | + 0·62 | ......... | +44·85 | 14 4 32·25 |

| Date. | OBJECT OBSERVED. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 26 | α Bootis | 16·9 | 31·0 | 45·1 | 59·3 | 13·4 | 7 45·14 | + 0·43 | +44·84 | +44·85 | 14 8 30·42 |
|  | Venus 2 Limb | 56·6 | 10·6 | 24·7 | 38·6 | 52·8 | 26 24·66 | + 0·63 | ……… | +44·70 | 17 27 9·99 |
| Dec. 27 | Sun 1 Limb | 8·4 | 22·9 | 37·3 | 51·9 | 6·2 | 21 37·34 | + 0·76 | ……… | +44·60 | 18 22 22·70 |
|  | Sun 2 Limb | 30·6 | 45·0 | 59·6 | 14·1 | 28·7 | 23 59·60 | + 0·76 | ……… | +44·60 | 18 24 44·96 |
|  | α Lyræ | 17·3 | 34·3 | 51·4 | 8·3 | 25·4 | 30 51·34 | + 0·38 | +44·56 | +44·59 | 18 31 36·31 |
|  | α Aquilæ | 55·1 | 8·5 | 22·0 | 35·4 | 48·7 | 42 21·94 | + 0·59 | +44·51 | +44·53 | 19 43 7·06 |
|  | α Andromedæ | 2·5 | 17·6 | 32·8 | 48·0 | 2·9 | 59 32·76 | + 0·47 | +44·56 | +44·53 | 0 0 17·76 |
|  | γ Pegasi | 58·0 | 11·5 | 25·3 | 39·0 | 52·5 | 4 25·26 | + 0·56 | +44·49 | +44·53 | 0 5 10·35 |
|  | 23 Cassiopeæ | 4·8 | 53·0 | 41·0 | 29·2 | 17·6 | 36 41·12 | − 0·44 | ……… | +44·53 | 0 37 25·21 |
|  | 31 Cassiopeæ | 13·3 | 48·8 | 24·3 | 59·7 | 35·1 | 59 24·24 | − 0·13 | ……… | +44·53 | 1 0 8·64 |
|  | α Ursæ Minoris | 56·5 | 17·0 | …… | 59·0 | …… | 2 38·17 | −10·71 | ……… | +44·53 | 1 3 11·99 |
|  | Piazzi I. 9 | 9·4 | 28·0 | 46·6 | 5·2 | 23·8 | 2 46·60 | + 0·33 | ……… | +44·53 | 1 3 31·46 |
|  | $\theta^1$ Ceti | 0·0 | 13·3 | 26·8 | 40·2 | 53·7 | 15 26·80 | + 0·66 | +44·51 | +44·53 | 1 16 11·99 |
|  | 49 Andromedæ | 21·3 | 40·3 | 59·5 | 18·8 | 38·0 | 19 59·58 | + 0·31 | ……… | +44·53 | 1 20 44·42 |
|  | υ Andromedæ | 56·3 | 14·1 | 31·7 | 49·7 | 7·5 | 31 31·86 | + 0·37 | ……… | +44·53 | 1 32 16·76 |
|  | Piazzi II. 191 | 36·0 | 44·6 | 53·3 | 1·6 | 10·2 | 44 53·14 | − 0·90 | ……… | +44·53 | 2 45 36·77 |
|  | Piazzi II. 220, pre. | 18·2 | 39·6 | 1·0 | 22·5 | 43·8 | 49 1·02 | + 0·24 | ……… | +44·53 | 2 49 45·79 |
|  | Piazzi III. 7 | 31·0 | 2·7 | 34·4 | 6·0 | 37·5 | 5 34·32 | − 0·03 | ……… | +44·53 | 3 6 18·82 |
|  | Piazzi III. 28 | 24·0 | 44·0 | 4·1 | 24·1 | 44·2 | 10 4·08 | + 0·29 | ……… | +44·53 | 3 10 48·90 |
|  | Piazzi III. 121 | 29·5 | 1·1 | 32·3 | 4·0 | 35·6 | 34 32·50 | − 0·03 | ……… | +44·53 | 3 35 17·00 |
|  | 42 Persei | 24·1 | 40·0 | 55·7 | 11·4 | 27·2 | 38 55·68 | + 0·43 | ……… | +44·53 | 3 39 40·64 |
|  | Piazzi III. 177 | 59·2 | 27·8 | 56·8 | 25·7 | 54·5 | 42 56·80 | + 0·05 | ……… | +44·53 | 3 43 41·38 |
|  | Piazzi III. 208 | 52·5 | 18·2 | 43·7 | 9·3 | 35·1 | 50 43·76 | + 0·13 | ……… | +44·53 | 3 51 28·42 |
|  | λ Persei | 21·7 | 52·4 | 13·0 | 33·8 | 54·5 | 54 13·08 | + 0·27 | ……… | +44·53 | 3 54 57·88 |
|  | 50 Persei | 54·0 | 10·6 | 27·4 | 44·2 | 1·1 | 57 27·46 | + 0·39 | ……… | +44·53 | 3 58 12·38 |
|  | Piazzi IV. 7 | 4·0 | 26·2 | 48·5 | 10·5 | 32·8 | 3 48·40 | + 0·23 | ……… | +44·53 | 4 4 33·16 |
|  | Piazzi IV. 22 | 36·5 | 3·2 | 30·1 | 57·0 | 23·7 | 7 30·10 | + 0·09 | ……… | +44·53 | 4 8 14·72 |
|  | 55 Persei | 4·3 | 20·4 | 36·4 | 52·6 | 8·5 | 13 36·44 | + 0·42 | ……… | +44·53 | 4 14 21·39 |
|  | 2 Camelopardi | 8·9 | 30·9 | 52·8 | 14·7 | 36·8 | 26 52·82 | + 0·23 | ……… | +44·53 | 4 27 37·58 |
|  | 1 Aurigæ | 5·9 | 22·4 | 39·2 | 55·6 | 12·4 | 38 39·10 | + 0·39 | ……… | +44·53 | 4 39 24·02 |
|  | Piazzi IV. 254 | 26·6 | 13·8 | 1·2 | 48·5 | 36·0 | 52 1·22 | − 0·42 | ……… | +44·53 | 4 52 45·33 |
|  | 14 Camelopardi | 18·7 | 47·6 | 16·3 | 45·1 | 13·9 | 58 16·32 | + 0·04 | ……… | +44·53 | 4 59 0·89 |
|  | Piazzi IV. 311 | 32·5 | 37·0 | 41·8 | 46·4 | 51·1 | 3 41·76 | − 0·81 | ……… | +44·53 | 5 4 25·48 |
|  | 16 Camelopardi | 32·3 | 56·8 | 21·4 | 46·1 | 10·8 | 9 21·48 | + 0·15 | ……… | +44·53 | 5 10 6·16 |
|  | σ Aurigæ | 44·0 | 0·7 | 17·3 | 34·0 | 50·9 | 13 17·38 | + 0·39 | ……… | +44·53 | 5 14 2·30 |
|  | Piazzi V. 71 | 10·9 | 27·1 | 43·1 | 59·1 | 15·1 | 15 43·06 | + 0·42 | ……… | +44·53 | 5 16 28·01 |
|  | 18 Camelopardi | 37·9 | 2·4 | 26·8 | 51·5 | 16·0 | 18 26·92 | + 0·17 | ……… | +44·53 | 5 19 11·62 |
|  | 22 Camelopardi | 21·8 | 45·6 | 9·7 | 33·7 | 57·6 | 25 9·68 | + 0·18 | ……… | +44·53 | 5 25 54·39 |
|  | 26 Camelopardi | 48·6 | 12·3 | 36·1 | 59·8 | 23·5 | 32 36·06 | + 0·18 | ……… | +44·53 | 5 33 20·77 |
|  | Moon 2 Limb | 41·5 | 56·4 | 11·4 | 26·3 | 41·5 | 23 11·42 | + 0·75 | ……… | +44·57 | 15 23 56·74† |
|  | α Coronæ Borealis | 47·4 | 2·2 | 17·3 | 32·2 | 47·2 | 27 17·26 | + 0·47 | +44·54 | +44·57 | 15 28 2·30† |
|  | α Serpentis | 20·4 | 33·6 | 47·0 | 0·5 | 13·7 | 35 47·04 | + 0·59 | +44·61 | +44·57 | 15 36 32·20† |
|  | Venus 2 Limb | …… | 19·4 | 33·3 | 47·4 | 1·5 | 24 33·35 | + 0·73 | ……… | +44·41 | 17 25 18·49 |
| Dec. 28 | Sun 1 Limb | 34·8 | 49·3 | 3·9 | 18·3 | 32·8 | 26 3·82 | + 0·77 | ……… | +44·34 | 18 26 48·93 |
|  | Sun 2 Limb | 57·1 | 11·6 | 26·1 | 40·6 | 55·2 | 28 26·12 | + 0·77 | ……… | +44·34 | 18 29 11·23 |
|  | α Lyræ | 17·5 | 34·5 | 51·6 | 8·6 | 25·6 | 30 51·56 | + 0·42 | +44·31 | +44·33 | 18 31 36·31 |
|  | γ Aquilæ | 35·6 | 49·0 | 2·6 | 16·1 | 29·6 | 38 2·58 | + 0·60 | +44·16 | +44·28 | 19 38 47·46 |
|  | α Aquilæ | 55·3 | 8·6 | 22·0 | 35·5 | 49·0 | 42 22·08 | + 0·60 | +44·37 | +44·28 | 19 43 6·96 |
|  | δ Ursæ Minoris | 21·5 | 5·5 | 49·5 | 33·5 | …… | 21 49·54 | − 4·25 | ……… | +44·27 | 18 22 29·56 |
| Dec. 29 | Sun 1 Limb | 1·3 | 15·8 | 30·2 | 44·6 | 59·2 | 30 30·22 | + 0·69 | ……… | +44·27 | 18 31 15·18 |
|  | Sun 2 Limb | 23·3 | 37·8 | 52·4 | 6·8 | 21·2 | 32 52·30 | + 0·69 | ……… | +44·27 | 18 33 37·26 |
|  | γ Aquilæ | 35·5 | 49·1 | 2·5 | 16·0 | 29·5 | 38 2·52 | + 0·51 | +44·31 | +44·26 | 19 38 47·29 |
|  | α Aquilæ | 55·4 | 8·8 | 22·3 | 35·6 | 49·1 | 42 22·24 | + 0·51 | +44·30 | +44·26 | 19 43 7·01 |
|  | α Cygni | 42·0 | 0·7 | 19·2 | 38·0 | 56·7 | 35 19·32 | + 0·24 | ……… | +44·26 | 20 36 3·82 |
|  | α Aquarii | 32·0 | 45·3 | 58·6 | 11·8 | 25·1 | 56 58·56 | + 0·57 | +44·16 | +44·26 | 21 57 43·39 |

| Date. | Object Observed. | Wire. |  |  |  |  | Reduction to Mean of Wires. | Correction of Instrument. | Correction of Clock |  | Apparent Right Ascension observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. | III. | IV. | V. |  |  | observed. | interpolated. |  |
|  |  | s. | s. | s. | s. | s. | m. s. | s. | s. | s. | h. m. s. |
| Dec. 29 | 23 Cassiopeæ | 5·1 | 52·9 | 41·6 | 29·4 | 17·8 | 36 41·36 | − 0·55 | ……… | +44·30 | 0 37 25·11 |
|  | α Ursæ Minoris | 54·5 | 16·0 | 37·0 | …… | 20·5 | 2 37·65 | −11·33 | ……… | +44·31 | 1 3 10·63 |
| Dec. 30 | Piazzi III. 105 | 43·3 | 12·4 | 41·3 | 10·1 | 39·6 | 31 41·34 | − 0·11 | ……… | +44·70 | 3 32 25·93 |
|  | Piazzi III. 121 | 29·5 | 1·1 | 32·5 | 4·1 | 35·6 | 34 32·56 | − 0·17 | ……… | +44·70 | 3 35 17·09 |
|  | η Tauri | 58·2 | …… | 27·2 | 41·4 | 55·8 | 37 27·02 | + 0·30 | +44·72 | +44·70 | 3 38 12·02 |
|  | δ Ursæ Minoris | 21·5 | 4·5 | 47·5 | 32·0 | 15·5 | 21 48·20 | − 4·14 | ……… | +44·46 | 18 22 28·52 |
|  | α Lyræ | 17·5 | 34·6 | 51·6 | 8·7 | 25·8 | 30 51·64 | + 0·20 | +44·46 | +44·46 | 18 31 36·30 |
| Dec. 31 | Sun 1 Limb | …… | 7·2 | 21·8 | 36·1 | 50·7 | 39 21·70 | + 0·55 | ……… | +44·46 | 18 40 6·71 |
|  | Sun 2 Limb | 14·7 | 29·3 | 43·8 | 58·5 | 12·8 | 41 43·82 | + 0·55 | ……… | +44·46 | 18 42 28·83 |
|  | γ Aquilæ | 35·5 | 49·0 | 2·5 | 16·0 | 29·6 | 38 2·52 | + 0·38 | +44·45 | +44·46 | 19 38 47·36 |
|  | α Cygni | 41·8 | 0·6 | 19·3 | 38·0 | 56·7 | 35 19·28 | + 0·17 | ……… | +44·46 | 20 36 3·91 |
|  | ζ Cygni | 59·7 | 15·0 | 30·2 | 45·5 | 0·8 | 5 30·24 | + 0·28 | +44·54 | +44·48 | 21 6 15·00 |
|  | α Aquarii | 31·8 | 45·1 | 58·3 | 11·6 | 25·0 | 56 58·36 | + 0·44 | +44·48 | +44·49 | 21 57 43·29 |
|  | 23 Cassiopeæ | 4·5 | 52·0 | 41·0 | 29·3 | 17·3 | 36 40·82 | − 0·51 | ……… | +44·53 | 0 37 24·84 |
|  | α Ursæ Minoris | 51·0 | 11·5 | 34·0 | 56·0 | …… | 2 33·95 | − 9·61 | ……… | +44·54 | 1 3 8·88 |
|  | $\theta^1$ Ceti | 0·0 | 13·3 | 26·8 | 40·2 | 53·8 | 15 26·82 | + 0·48 | +44·63 | +44·54 | 1 16 11·84 |
|  | 49 Andromedæ | 21·3 | 40·3 | 59·7 | 19·0 | 38·1 | 19 59·68 | + 0·15 | ……… | +44·54 | 1 20 44·37 |
|  | ω Cassiopeæ | 56·7 | 31·4 | 5·5 | 40·0 | 14·6 | 30 5·64 | + 0·21 | ……… | +44·54 | 1 30 50·39 |
|  | Piazzi I. 200 | 26·0 | 42·6 | 59·1 | 15·6 | 32·1 | 44 59·08 | + 0·23 | ……… | +44·54 | 1 45 43·85 |
|  | 52 Cassiopeæ | 32·1 | 2·5 | 33·1 | 3·5 | 34·1 | 50 33·06 | − 0·12 | ……… | +44·54 | 1 51 17·48 |
|  | ε Trianguli | 34·2 | 50·0 | 5·8 | 21·5 | 37·2 | 53 5·74 | + 0·26 | ……… | +44·55 | 1 53 50·55 |
|  | Piazzi III. 121 | 29·7 | 1·2 | 32·2 | 3·7 | 35·4 | 34 32·44 | − 0·14 | ……… | +44·57 | 3 35 16·87 |
|  | Piazzi III. 208 | 52·5 | 18·0 | 43·8 | 9·3 | 34·8 | 50 43·68 | − 0·01 | ……… | +44·57 | 3 51 28·24 |
|  | Piazzi IV. 7 | 3·9 | 26·2 | 48·6 | 11·0 | 33·2 | 3 48·58 | + 0·08 | ……… | +44·58 | 4 4 33·24 |
|  | Piazzi IV. 22 | 36·5 | 3·2 | 30·1 | 57·0 | 23·8 | 7 30·12 | − 0·04 | ……… | +44·58 | 4 8 14·66 |
|  | Piazzi IV. 112 | 25·8 | 19·2 | 12·6 | 6·7 | 0·0 | 27 12·86 | − 0·62 | ……… | +44·58 | 4 27 56·82 |
|  | 1 Aurigæ | 5·8 | 22·5 | 39·3 | 56·0 | 12·7 | 38 39·26 | + 0·22 | ……… | +44·58 | 4 39 24·06 |
|  | Piazzi IV. 254 | 26·3 | 13·8 | 1·2 | 48·7 | 36·2 | 52 1·24 | − 0·49 | ……… | +44·58 | 4 52 45·33 |
|  | 14 Camelopardi | 18·4 | 47·4 | 15·9 | 45·1 | 13·4 | 58 16·04 | − 0·09 | ……… | +44·58 | 4 59 0·53 |
|  | Piazzi IV. 311 | 32·4 | 36·8 | 41·2 | 46·0 | 50·9 | 3 41·46 | − 0·84 | ……… | +44·59 | 5 4 25·21 |
|  | σ Aurigæ | 44·1 | 0·8 | 17·5 | 34·2 | 51·0 | 13 17·52 | + 0·22 | ……… | +44·59 | 5 14 2·33 |
|  | Piazzi V. 71 | 10·9 | 27·1 | 43·0 | 59·2 | 15·3 | 15 43·10 | + 0·25 | ……… | +44·59 | 5 16 27·94 |
|  | 18 Camelopardi | 38·1 | 2·6 | 27·1 | 51·6 | 16·1 | 18 27·10 | + 0·04 | ……… | +44·59 | 5 19 11·73 |
|  | 22 Camelopardi | 21·8 | 45·7 | 9·7 | 33·5 | 57·4 | 25 9·62 | + 0·04 | ……… | +44·59 | 5 25 54·25 |
|  | 29 Camelopardi | 41·8 | 6·2 | 30·4 | 54·8 | 18·8 | 36 30·40 | + 0·04 | ……… | +44·59 | 5 37 15·03 |
|  | υ Aurigæ | 5·0 | 21·6 | 38·3 | 55·0 | 11·7 | 39 38·32 | + 0·22 | ……… | +44·59 | 5 40 23·13 |

# ROYAL OBSERVATORY, EDINBURGH.

## MEAN RIGHT ASCENSIONS OF STARS OBSERVED AT THE ROYAL OBSERVATORY, EDINBURGH, IN THE YEAR 1842, REDUCED TO JANUARY 1, 1842.

α Andromedæ.

| | h. | m. | s. |
|---|---|---|---|
| Jan. 4 | 0 | 0 | 13·98 |
| 5 | | | 14·00 |
| 6 | | | 13·91 |
| 11 | | | 13·98 |
| 12 | | | 13·83 |
| 19 | | | 13·89 |
| 20 | | | 13·90 |
| 21 | | | 13·89 |
| 29 | | | 13·95 |
| Feb. 5 | | | 13·89 |
| 10 | | | 13·93 |
| 15 | | | 13·97 |
| 16 | | | 13·98 |
| 19 | | | 14·01 |
| 24 | | | 13·95 |
| Mar. 1 | | | 13·87 |
| Apr. 10 | | | 13·93 |
| June 1 | | | 14·01 |
| 2 | | | 13·90 |
| Sept. 18 | | | 13·90 |
| 26 | | | 13·94 |
| Oct. 17 | | | 13·91 |
| 18 | | | 13·99 |
| 19 | | | 13·90 |
| 21 | | | 13·96 |
| 25 | | | 13·79 |
| 31 | | | 13·92 |
| Nov. 7 | | | 13·88 |
| 12 | | | 14·11 |
| 18 | | | 13·86 |
| 23 | | | 13·88 |
| 25 | | | 13·88 |
| Dec. 12 | | | 13·94 |
| 22 | | | 13·93 |
| 27 | | | 13·88 |

γ Pegasi.

| | | | |
|---|---|---|---|
| Jan. 4 | 0 | 5 | 6·39 |
| 11 | | | 6·42 |
| 19 | | | 6·36 |
| Feb. 10 | | | 6·41 |
| Apr. 10 | | | 6·32 |
| June 1 | | | 6·25 |
| 2 | | | 6·36 |
| Sept. 18 | | | 6·38 |

γ Pegasi.

| | h. | m. | s. |
|---|---|---|---|
| Sept. 26 | 0 | 5 | 6·30 |
| Oct. 13 | | | 6·39 |
| 17 | | | 6·36 |
| 19 | | | 6·37 |
| 21 | | | 6·39 |
| 25 | | | 6·39 |
| 26 | | | 6·31 |
| 31 | | | 6·35 |
| Nov. 7 | | | 6·36 |
| 12 | | | 6·27 |
| 13 | | | 6·33 |
| 18 | | | 6·32 |
| 23 | | | 6·38 |
| 25 | | | 6·36 |
| Dec. 12 | | | 6·33 |
| 16 | | | 6·35 |
| 27 | | | 6·39 |

Groombridge 29.

| | | | |
|---|---|---|---|
| Jan. 6 | 0 | 7 | 19·66 |
| 7 | | | 19·49 |
| 15 | | | 18·18 |
| 17 | | | 18·01 |
| 21 | | | 17·39 |

σ Andromedæ.

| | | | |
|---|---|---|---|
| Nov. 14 | 0 | 10 | 5·18 |
| 18 | | | 5·29 |
| 23 | | | 5·23 |

ι Ceti.

| | | | |
|---|---|---|---|
| Oct. 26 | 0 | 11 | 22·61 |
| Nov. 9 | | | 22·69 |
| 12 | | | 22·52 |

41 Piscium.

| | | | |
|---|---|---|---|
| Jan. 17 | 0 | 12 | 28·40 |
| Sept. 20 | | | 28·45 |
| Nov. 13 | | | 28·34 |
| 14 | | | 28·23 |

ϱ Andromedæ.

| | h. | m. | s. |
|---|---|---|---|
| Nov. 18 | 0 | 12 | 48·85 |
| 23 | | | 48·94 |
| 24 | | | 48·64 |

12 Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 16 | 7·36 |
| 12 | | | 7·79 |
| 18 | | | 7·12 |
| 23 | | | 7·21 |
| 24 | | | 6·79 |

Piazzi O. 74.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 19 | 45·74 |
| 12 | | | 45·59 |
| 14 | | | 45·53 |

Piazzi O. 118.

| | | | |
|---|---|---|---|
| Nov. 18 | 0 | 27 | 22·57 |
| Dec. 17 | | | 22·71 |
| 22 | | | 22·64 |

Piazzi O. 124.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 28 | 12·58 |
| 12 | | | 12·56 |
| 14 | | | 12·55 |

Piazzi O. 128.

| | | | |
|---|---|---|---|
| Nov. 23 | 0 | 28 | 54·48 |
| 30 | | | 54·38 |
| Dec. 24 | | | 54·61 |

32 Andromedæ.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 32 | 34·52 |
| 12 | | | 34·44 |
| 14 | | | 34·37 |

ξ Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 18 | 0 | 33 | 16·73 |
| 23 | | | 16·62 |
| 30 | | | 16·79 |

21 Cassiopeæ.

| | h. | m. | s. |
|---|---|---|---|
| Nov. 25 | 0 | 35 | 19·76 |
| Dec. 8 | | | 19·87 |
| 12 | | | 19·71 |
| 17 | | | 20·17 |
| 22 | | | 19·90 |

β Ceti.

| | | | |
|---|---|---|---|
| Nov. 12 | 0 | 35 | 39·31 |
| 13 | | | 39·34 |
| 24 | | | 39·33 |

ο Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 14 | 0 | 35 | 56·77 |
| 18 | | | 56·72 |
| 23 | | | 56·55 |

23 Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 30 | 0 | 37 | 19·92 |
| Dec. 24 | | | 20·56 |
| 27 | | | 20·11 |
| 29 | | | 20·14 |
| 31 | | | 20·00 |

ν Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 39 | 54·58 |
| 14 | | | 54·57 |
| 23 | | | 54·38 |

δ Piscium.

| | | | |
|---|---|---|---|
| Dec. 12 | 0 | 40 | 29·26 |

Piazzi O. 209.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 43 | 41·31 |
| 12 | | | 41·39 |
| 18 | | | 41·24 |
| 23 | | | 41·07 |
| 25 | | | 41·39 |

$\upsilon^1$ Cassiopeæ.

| | h. | m. | s. |
|---|---|---|---|
| Nov. 30 | 0 | 45 | 40·07 |
| Dec. 10 | | | 39·68 |
| 12 | | | 40·01 |

$\upsilon^2$ Cassiopeæ.

| | | | |
|---|---|---|---|
| Dec. 13 | 0 | 47 | 17·87 |
| 16 | | | 17·96 |
| 17 | | | 18·47 |

39 Andromedæ.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 54 | 2·62 |
| 12 | | | 2·86 |
| 18 | | | 2·89 |

$\sigma^1$ Piscium.

| | | | |
|---|---|---|---|
| Nov. 23 | 0 | 54 | 10·90 |
| 24 | | | 10·85 |
| 25 | | | 10·90 |

ε Piscium.

| | | | |
|---|---|---|---|
| Feb. 15 | 0 | 54 | 45·01 |
| Dec. 12 | | | 44·71 |

μ Cassiopeæ.

| | | | |
|---|---|---|---|
| Nov. 9 | 0 | 57 | 48·63 |
| 12 | | | 48·48 |
| 14 | | | 48·38 |

41 Andromedæ.

| | | | |
|---|---|---|---|
| Nov. 18 | 0 | 58 | 58·07 |
| 23 | | | 57·98 |
| 24 | | | 58·14 |

78 Piscium.

| | | | |
|---|---|---|---|
| Nov. 29 | 0 | 59 | 17·88 |
| 30 | | | 17·76 |
| Dec. 12 | | | 17·69 |

### 31 Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 16 | 1 | 0 | 3·03 |
| | 22 | | | 3·05 |
| | 23 | | | 3·20 |
| | 24 | | | 3·24 |
| | 27 | | | 3·04 |

### 32 Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 12 | 1 | 1 | 28·03 |
| | 14 | | | 27·96 |
| | 18 | | | 27·86 |
| | 23 | | | 27·67 |
| | 24 | | | 27·93 |

### 45 Andromedæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 29 | 1 | 2 | 19·05 |
| | 30 | | | 18·75 |
| Dec. | 3 | | | 18·88 |

### α Ursæ Minoris.

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 4 | 1 | 2 | 44·99 |
| | 6 | | | 43·96 |
| | 7 | | | 43·97 |
| | 12 | | | 44·80 |
| | 15 | | | 42·72 |
| | 17 | | | 44·11 |
| | 18 | | | 43·83 |
| | 19 | | | 44·14 |
| | 20 | | | 44·03 |
| | 25 | | | 44·49 |
| | 27 | | | 43·00 |
| | 28 | | | 44·09 |
| | 29 | | | 43·56 |
| Feb. | 2 | | | 43·95 |
| | 3 | | | 43·86 |
| | 5 | | | 43·99 |
| | 10 | | | 44·09 |
| | 11 | | | 43·67 |
| | 12 | | | 43·91 |
| | 15 | | | 44·08 |
| | 16 | | | 44·16 |
| | 19 | | | 44·19 |
| | 21 | | | 43·75 |
| | 24 | | | 44·15 |
| Mar. | 1 | | | 43·93 |
| | 4 | | | 43·91 |
| | 10 | | | 41·69 |
| | 18 | | | 42·74 |
| | 19 | | | 42·80 |
| | 24 | | | 43·91 |
| | 29 | | | 43·35 |
| | 31 | | | 43·96 |
| Apr. | 5 | | | 43·85 |
| Apr. | 6 | 1 | 2 | 44·04 |
| | 7 | | | 42·71 |
| | 8 | | | 41·40 |
| | 10 | | | 43·92 |
| | 11 | | | 43·96 |
| | 12 | | | 44·93 |
| | 15 | | | 44·72 |
| | 19 | | | 44·02 |
| | 20 | | | 42·34 |
| | 21 | | | 43·75 |
| | 22 | | | 43·14 |
| | 25 | | | 43·97 |
| | 26 | | | 44·76 |
| | 27 | | | 43·86 |
| | 28 | | | 44·36 |
| May | 1 | | | 44·04 |
| | 2 | | | 45·84 |
| June | 1 | | | 45·25 |
| | 2 | | | 43·53 |
| | 3 | | | 44·29 |
| | 12 | | | 43·98 |
| Oct. | 19 | | | 44·02 |
| | 20 | | | 43·95 |
| | 24 | | | 44·10 |
| | 25 | | | 44·11 |
| | 26 | | | 44·08 |
| | 28 | | | 44·53 |
| | 31 | | | 44·09 |
| Nov. | 4 | | | 45·08 |
| | 5 | | | 44·02 |
| | 7 | | | 44·05 |
| | 9 | | | 45·57 |
| | 12 | | | 44·02 |
| | 14 | | | 43·73 |
| | 18 | | | 43·93 |
| | 23 | | | 44·03 |
| | 24 | | | 44·03 |
| | 25 | | | 44·33 |
| | 29 | | | 44·02 |
| | 30 | | | 44·10 |
| Dec. | 3 | | | 43·90 |
| | 8 | | | 44·02 |
| | 10 | | | 44·04 |
| | 12 | | | 44·12 |
| | 13 | | | 44·08 |
| | 16 | | | 44·05 |
| | 22 | | | 44·05 |
| | 23 | | | 46·99 |
| | 27 | | | 43·95 |
| | 29 | | | 44·09 |
| | 31 | | | 43·86 |

### α Ursæ Minoris S.P.

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 26 | 13 | 2 | 44·35 |
| Apr. | 16 | 13 | 2 | 44·08 |
| | 18 | | | 43·85 |
| | 19 | | | 45·04 |
| | 20 | | | 44·34 |
| | 21 | | | 43·56 |
| | 22 | | | 42·72 |
| | 25 | | | 44·11 |
| | 26 | | | 44·44 |
| | 28 | | | 44·09 |
| | 29 | | | 43·91 |
| May | 2 | | | 43·14 |
| | 6 | | | 43·98 |
| | 7 | | | 44·50 |
| | 12 | | | 43·90 |
| | 21 | | | 44·04 |
| | 27 | | | 44·04 |
| | 28 | | | 44·36 |
| | 30 | | | 43·93 |
| | 31 | | | 43·83 |
| June | 2 | | | 44·10 |
| | 3 | | | 43·93 |
| | 6 | | | 43·93 |
| | 7 | | | 43·94 |
| | 8 | | | 44·10 |
| | 10 | | | 44·13 |
| | 11 | | | 43·93 |
| | 13 | | | 44·05 |
| | 14 | | | 43·99 |
| | 18 | | | 43·86 |
| | 27 | | | 43·97 |
| | 28 | | | 43·86 |
| July | 6 | | | 41·97 |
| | 8 | | | 43·90 |
| | 12 | | | 43·89 |
| | 13 | | | 44·03 |
| | 14 | | | 43·96 |
| | 15 | | | 43·97 |
| | 16 | | | 43·86 |
| | 19 | | | 44·00 |
| | 21 | | | 44·02 |
| | 22 | | | 43·98 |
| | 23 | | | 43·71 |
| | 26 | | | 43·87 |
| | 27 | | | 43·82 |
| | 28 | | | 44·03 |
| | 29 | | | 42·97 |
| Aug. | 2 | | | 43·95 |
| | 4 | | | 44·06 |
| | 11 | | | 43·95 |
| | 16 | | | 43·88 |
| | 17 | | | 43·64 |
| | 18 | | | 43·92 |
| | 22 | | | 43·67 |
| | 31 | | | 43·57 |
| Sept. | 6 | | | 43·80 |
| Sept. | 12 | 13 | 2 | 43·80 |
| | 14 | | | 45·96 |
| | 19 | | | 45·35 |
| | 21 | | | 43·84 |
| | 28 | | | 43·80 |
| Oct. | 4 | | | 44·83 |
| | 6 | | | 44·15 |
| | 7 | | | 44·09 |
| | 8 | | | 43·91 |
| | 10 | | | 44·70 |
| | 11 | | | 47·28 |
| | 12 | | | 43·94 |
| | 13 | | | 44·05 |
| | 14 | | | 45·24 |
| | 19 | | | 43·29 |
| | 20 | | | 43·94 |
| | 21 | | | 43·97 |
| | 23 | | | 43·77 |
| | 27 | | | 44·14 |
| | 28 | | | 44·89 |
| | 31 | | | 46·46 |
| Nov. | 3 | | | 42·76 |
| | 9 | | | 45·29 |
| | 13 | | | 43·94 |
| | 14 | | | 44·16 |
| | 20 | | | 44·03 |

### Piazzi I. 9.

| | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 22 | 1 | 3 | 26·56 |
| | 24 | | | 26·62 |
| | 27 | | | 26·64 |

### φ Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 1 | 10 | 11·54 |
| | 12 | | | 11·43 |
| | 14 | | | 11·46 |

### 47 Andromedæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 1 | 14 | 39·69 |
| | 14 | | | 39·47 |
| | 18 | | | 39·42 |

### θ¹ Ceti.

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 7 | 1 | 16 | 7·67 |
| | 18 | | | 7·63 |
| Nov. | 5 | | | 7·71 |
| | 7 | | | 7·66 |
| | 12 | | | 7·69 |
| Dec. | 3 | | | 7·66 |
| Dec. | 22 | 1 | 16 | 7·62 |
| | 23 | | | 7·66 |
| | 24 | | | 7·58 |
| | 27 | | | 7·68 |
| | 31 | | | 7·57 |

### ω Andromedæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 1 | 18 | 14·03 |
| | 14 | | | 13·80 |
| | 18 | | | 13·70 |

### 38 Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 23 | 1 | 19 | 34·43 |
| | 24 | | | 34·41 |
| | 29 | | | 34·48 |
| | 30 | | | 34·46 |
| Dec. | 3 | | | 34·39 |

### 49 Andromedæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 24 | 1 | 20 | 39·41 |
| | 27 | | | 39·30 |
| | 31 | | | 39·31 |

### η Piscium.

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 18 | 1 | 23 | 2·16 |
| Oct. | 19 | | | 2·20 |
| Nov. | 14 | | | 2·12 |
| Dec. | 12 | | | 2·17 |
| | 13 | | | 2·17 |

### χ Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 1 | 23 | 39·46 |
| | 12 | | | 39·45 |
| | 18 | | | 39·17 |

### 40 Cassiopeæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 23 | 1 | 26 | 0·87 |
| | 29 | | | 1·43 |
| | 30 | | | 1·12 |
| Dec. | 3 | | | 1·17 |
| | 12 | | | 1·14 |

### Piazzi I. 113.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 1 | 26 | 49·73 |
| | 12 | | | 49·63 |
| | 14 | | | 49·55 |

| | | | h. | m. | s. |
|---|---|---|---|---|---|
| π Piscium. | Feb. | 15 | 1 | 28 | 43·97 |
| χ Andromedæ. | Nov. | 9 | 1 | 29 | 54·12 |
| | | 14 | | | 53·88 |
| | | 18 | | | 53·97 |
| ω Cassiopeæ. | Dec. | 31 | 1 | 30 | 43·99 |
| 42 Cassiopeæ. | Nov. | 23 | 1 | 30 | 46·81 |
| | | 29 | | | 47·31 |
| | | 30 | | | 47·10 |
| | Dec. | 3 | | | 47·05 |
| | | 24 | | | 47·32 |
| υ Andromedæ. | Nov. | 18 | 1 | 32 | 11·57 |
| | Dec. | 22 | | | 11·70 |
| | | 27 | | | 11·68 |
| Piazzi I. 170. | Nov. | 12 | 1 | 39 | 20·79 |
| | | 14 | | | 20·57 |
| | | 23 | | | 20·72 |
| 1 Persei. | Nov. | 12 | 1 | 41 | 39·25 |
| | | 14 | | | 39·07 |
| | | 23 | | | 39·19 |
| 2 Persei. | Nov. | 29 | 1 | 42 | 8·67 |
| | | 30 | | | 8·53 |
| | Dec. | 1 | | | 8·36 |
| 46 Cassiopeæ. | Nov. | 25 | 1 | 43 | 49·37 |
| 55 Andromedæ. | Nov. | 14 | 1 | 43 | 49·93 |
| 55 Andromedæ. | Nov. | 23 | 1 | 43 | 50·10 |
| | Dec. | 3 | | | 50·09 |
| Piazzi I. 200. | Nov. | 30 | 1 | 45 | 38·80 |
| | Dec. | 3 | | | 38·77 |
| | | 31 | | | 38·70 |
| β Arietis. | Jan. | 19 | 1 | 45 | 55·51 |
| | | 20 | | | 55·39 |
| | Feb. | 15 | | | 55·45 |
| | | 16 | | | 55·35 |
| Piazzi I. 203. | Nov. | 9 | 1 | 46 | 34·96 |
| | | 14 | | | 34·74 |
| | | 23 | | | 34·84 |
| 56 Andromedæ. | Nov. | 25 | 1 | 46 | 47·44 |
| | | 29 | | | 47·34 |
| Groombridge 404. | Jan. | 25 | 1 | 47 | 11·86 |
| | | 27 | | | 11·73 |
| | | 28 | | | 12·01 |
| | Feb. | 3 | | | 12·10 |
| | | 5 | | | 11·92 |
| 50 Cassiopeæ. | Jan. | 6 | 1 | 50 | 4·61 |
| | | 7 | | | 4·45 |
| | | 12 | | | 4·58 |
| 49 Cassiopeæ. | Nov. | 14 | 1 | 50 | 37·06 |
| | | 25 | | | 37·13 |
| | | 29 | | | 37·35 |
| | | 30 | | | 37·08 |
| | Dec. | 3 | | | 37·45 |
| 52 Ca siopeæ. | Nov. | 9 | 1 | 51 | 10·87 |
| | | 12 | | | 10·88 |
| | Dec. | 12 | | | 10·76 |
| | | 31 | | | 10·79 |
| ι Trianguli. | Nov. | 23 | 1 | 53 | 45·22 |
| | Dec. | 31 | | | 45·40 |
| α Arietis. | Jan. | 19 | 1 | 58 | 16·71 |
| | | 20 | | | 16·71 |
| | Feb. | 2 | | | 16·86 |
| | | 3 | | | 16·79 |
| | | 5 | | | 16·70 |
| | | 16 | | | 16·71 |
| | | 25 | | | 16·83 |
| | Mar. | 4 | | | 16·79 |
| | | 18 | | | 16·80 |
| | | 24 | | | 16·79 |
| | | 30 | | | 16·76 |
| | | 31 | | | 16·79 |
| | Apr. | 5 | | | 16·79 |
| | | 6 | | | 16·80 |
| | | 8 | | | 16·80 |
| | June | 12 | | | 16·92 |
| | July | 7 | | | 16·78 |
| | Nov. | 12 | | | 16·71 |
| | | 15 | | | 16·72 |
| | Dec. | 10 | | | 16·83 |
| | | 12 | | | 16·80 |
| | | 13 | | | 16·83 |
| 58 Andromedæ. | Nov. | 9 | 1 | 58 | 58·74 |
| | | 23 | | | 58·45 |
| | | 29 | | | 58·66 |
| 5 Persei. | Nov. | 12 | 2 | 0 | 32·06 |
| | | 30 | | | 32·17 |
| | Dec. | 3 | | | 32·14 |
| 59 Andromedæ, preced. | Nov. | 14 | 2 | 1 | 19·05 |
| | | 23 | | | 19·17 |
| | | 29 | | | 19·39 |
| 6 Persei. | Nov. | 9 | 2 | 3 | 8·11 |
| | Dec. | 3 | | | 8·15 |
| | | 12 | | | 8·07 |
| 60 Andromedæ. | Nov. | 14 | 2 | 3 | 20·19 |
| | | 29 | | | 20·60 |
| | | 30 | | | 20·46 |
| 7 Trianguli. | Nov. | 9 | 2 | 6 | 36·75 |
| | | 12 | | | 36·65 |
| | | 14 | | | 36·63 |
| δ Trianguli. | Nov. | 23 | 2 | 7 | 25·78 |
| | | 29 | | | 26·06 |
| | | 30 | | | 25·98 |
| γ Trianguli. | Dec. | 3 | 2 | 7 | 56·49 |
| | | 13 | | | 56·61 |
| Piazzi II. 41. | Nov. | 9 | 2 | 9 | 6·49 |
| | | 12 | | | 6·41 |
| | | 14 | | | 6·31 |
| 62 Andromedæ. | Dec. | 10 | 2 | 9 | 6·78 |
| $\theta^1$ Arietis. | July | 19 | 2 | 9 | 20·95 |
| | | 20 | | | 20·88 |
| | Oct. | 19 | | | 20·92 |
| | | 20 | | | 20·90 |
| 63 Andromedæ. | Nov. | 29 | 2 | 10 | 32·76 |
| | Dec. | 3 | | | 32·71 |
| 64 Andromedæ. | Nov. | 9 | 2 | 13 | 57·31 |
| | | 12 | | | 57·28 |
| | | 14 | | | 57·08 |
| 70 Ceti. | Jan. | 15 | 2 | 14 | 9·67 |
| | | 17 | | | 9·76 |
| 65 Andromedæ. | Nov. | 23 | 2 | 15 | 7·15 |
| | | 29 | | | 7·36 |
| | Dec. | 3 | | | 7·27 |
| Groombridge 506. | Jan. | 20 | 2 | 15 | 22·04 |
| | | 25 | | | 22·43 |
| | | 27 | | | 21·81 |
| | | 28 | | | 21·78 |
| | | 29 | | | 21·15 |
| 12 Trianguli. | Jan. | 12 | 2 | 18 | 55·22 |
| ψ Arietis. | Dec. | 13 | 2 | 22 | 9·30 |
| 14 Trianguli. | Nov. | 9 | 2 | 22 | 28·89 |
| | | 12 | | | 28·87 |
| | | 14 | | | 28·79 |
| Piazzi II. 97. | Nov. | 23 | 2 | 23 | 9·14 |
| | | 29 | | | 9·17 |
| | Dec. | 3 | | | 9·39 |
| | | 17 | | | 9·59 |
| | | 24 | | | 9·44 |
| ω Arietis. | Jan. | 12 | 2 | 24 | 15·51 |
| ν Arietis. | Feb. | 16 | 2 | 29 | 51·38 |
| | Oct. | 19 | | | 51·50 |
| | | 20 | | | 51·45 |

| 12 Persei. | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 12 | 2 | 32 | 17·99 |
| | 14 | | | 17·84 |
| | 23 | | | 17·88 |

| θ Persei. | | | | |
|---|---|---|---|---|
| Jan. | 12 | 2 | 33 | 26·43 |
| | 15 | | | 26·26 |

| 14 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 2 | 33 | 49·48 |
| | 24 | | | 49·45 |

| γ Ceti. | | | | |
|---|---|---|---|---|
| Jan. | 20 | 2 | 35 | 7·15 |
| Feb | 12 | | | 7·23 |
| Nov. | 15 | | | 7·32 |
| Dec. | 23 | | | 7·20 |

| π Arctis. | | | | |
|---|---|---|---|---|
| Dec. | 13 | 2 | 40 | 29·31 |

| 17 Persei. | | | | |
|---|---|---|---|---|
| Nov. | 12 | 2 | 41 | 47·91 |
| | 23 | | | 47·93 |
| | 29 | | | 48·12 |

| Piazzi II. 191. | | | | |
|---|---|---|---|---|
| Nov. | 23 | 2 | 45 | 23·10 |
| Dec. | 10 | | | 22·65 |
| | 23 | | | 23·81 |
| | 24 | | | 23·69 |
| | 27 | | | 23·96 |

| 21 Persei. | | | | |
|---|---|---|---|---|
| Nov. | 29 | 2 | 47 | 43·18 |
| Dec. | 3 | | | 42·96 |

| Piazzi II. 220. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 2 | 49 | 38·90 |
| | 24 | | | 38·95 |
| | 27 | | | 38·96 |

| ε Arietis. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 20 | 2 | 50 | 11·35 |
| | 21 | | | 11·22 |
| Feb. | 16 | | | 11·33 |

| A.S.C. 331. | | | | |
|---|---|---|---|---|
| Jan. | 3 | 2 | 53 | 43·26 |
| | 7 | | | 42·80 |

| α Ceti. | | | | |
|---|---|---|---|---|
| Jan. | 1 | 2 | 54 | 1·47 |
| | 20 | | | 1·63 |
| | 21 | | | 1·56 |
| Feb. | 16 | | | 1·48 |
| July | 7 | | | 1·54 |
| Nov. | 25 | | | 1·63 |
| Dec. | 6 | | | 1·58 |
| | 10 | | | 1·56 |

| Piazzi II. 237. | | | | |
|---|---|---|---|---|
| Nov. | 23 | 2 | 54 | 58·31 |
| | 29 | | | 58·52 |
| Dec. | 3 | | | 58·51 |
| | 23 | | | 58·93 |
| | 24 | | | 58·94 |

| Piazzi II. 255. | | | | |
|---|---|---|---|---|
| Jan. | 6 | 3 | 0 | 30·99 |
| | 7 | | | 31·04 |
| | 17 | | | 30·91 |
| | 25 | | | 31·02 |
| | 27 | | | 30·62 |

| A.S.C. 346. | | | | |
|---|---|---|---|---|
| Jan. | 1 | 3 | 1 | 4·90 |

| ω Persei. | | | | |
|---|---|---|---|---|
| Nov. | 23 | 3 | 1 | 6·72 |
| | 29 | | | 6·93 |
| | 30 | | | 6·67 |

| δ Arietis. | | | | |
|---|---|---|---|---|
| Oct. | 20 | 3 | 2 | 36·35 |

| Piazzi III. 7. | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 3 | 3 | 6 | 9·97 |
| | 17 | | | 10·04 |
| | 23 | | | 10·27 |
| | 24 | | | 10·14 |
| | 27 | | | 9·99 |

| Piazzi III. 23. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 8 | 52·05 |
| | 6 | | | 51·75 |
| | 24 | | | 52·04 |

| Piazzi III. 28. | | | | |
|---|---|---|---|---|
| Dec. | 23 | 3 | 10 | 42·19 |
| | 27 | | | 42·00 |

| Piazzi III. 27. | | | | |
|---|---|---|---|---|
| Nov. | 30 | 3 | 11 | 1·64 |
| Dec. | 3 | | | 1·73 |
| | 6 | | | 0·95 |
| | 12 | | | 1·70 |
| | 17 | | | 1·95 |

| 64 Arietis. | | | | |
|---|---|---|---|---|
| Oct. | 20 | 3 | 14 | 59·37 |

| Piazzi III. 57. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 17 | 59·77 |
| | 17 | | | 59·82 |
| | 22 | | | 59·44 |

| 34 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 10 | 3 | 18 | 5·99 |
| | 23 | | | 6·14 |
| | 24 | | | 6·03 |

| 36 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 21 | 31·23 |
| | 6 | | | 30·79 |
| | 10 | | | 31·14 |

| Piazzi III. 94. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 28 | 30·41 |
| | 6 | | | 29·68 |
| | 12 | | | 30·31 |

| Piazzi III. 94. | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 22 | 3 | 28 | 30·46 |
| | 23 | | | 30·46 |

| Piazzi III. 104. | | | | |
|---|---|---|---|---|
| Dec. | 10 | 3 | 30 | 51·83 |
| | 17 | | | 51·97 |
| | 24 | | | 51·90 |

| Piazzi III. 105. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 32 | 17·07 |
| | 23 | | | 17·23 |
| | 30 | | | 17·04 |

| Piazzi III. 111. | | | | |
|---|---|---|---|---|
| Dec. | 24 | 3 | 33 | 47·65 |

| Piazzi III. 121. | | | | |
|---|---|---|---|---|
| Dec. | 10 | 3 | 35 | 7·39 |
| | 23 | | | 7·76 |
| | 27 | | | 7·56 |
| | 30 | | | 7·70 |
| | 31 | | | 7·49 |

| A.S.C. 413. | | | | |
|---|---|---|---|---|
| Jan. | 6 | 3 | 38 | 5·97 |

| η Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 3 | 3 | 38 | 6·27 |
| | 8 | | | 6·26 |
| Feb. | 19 | | | 6·07 |
| Mar. | 30 | | | 6·20 |
| | 31 | | | 6·19 |
| Apr. | 5 | | | 6·41 |
| | 9 | | | 6·30 |
| Dec. | 13 | | | 6·18 |
| | 30 | | | 6·24 |

| 42 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 23 | 3 | 39 | 34·44 |
| | 24 | | | 34·25 |
| | 27 | | | 34·44 |

| Piazzi III. 177. | | | | |
|---|---|---|---|---|
| Dec. | 3 | 3 | 43 | 32·39 |
| | 23 | | | 32·41 |

| Piazzi III. 177. | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 24 | 3 | 43 | 32·47 |
| | 27 | | | 32·29 |

| Piazzi III. 160. | | | | |
|---|---|---|---|---|
| Dec. | 10 | 3 | 43 | 56·07 |

| $\gamma^1$ Eridani. | | | | |
|---|---|---|---|---|
| Jan. | 8 | 3 | 50 | 39·56 |
| | 11 | | | 39·55 |
| | 12 | | | 39·70 |
| | 21 | | | 39·51 |
| Dec. | 24 | | | 39·68 |

| Piazzi III. 208. | | | | |
|---|---|---|---|---|
| Dec. | 17 | 3 | 51 | 19·89 |
| | 27 | | | 19·87 |
| | 31 | | | 19·73 |

| λ Persei. | | | | |
|---|---|---|---|---|
| Dec. | 23 | 3 | 54 | 50·64 |
| | 24 | | | 50·46 |
| | 27 | | | 50·37 |

| 39 Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 7 | 3 | 55 | 59·57 |

| 50 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 17 | 3 | 58 | 5·90 |
| | 23 | | | 5·95 |
| | 27 | | | 6·51 |

| Groombridge 784. | | | | |
|---|---|---|---|---|
| Jan. | 6 | 4 | 0 | 45·97 |
| | 7 | | | 45·76 |
| | 11 | | | 46·06 |
| | 12 | | | 46·13 |
| | 17 | | | 45·49 |

| 52 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 16 | 4 | 4 | 9·07 |

| Piazzi IV. 7. | | | | |
|---|---|---|---|---|
| Dec: | 23 | 4 | 4 | 25·43 |

**Piazzi IV· 7.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 27 | 4 | 4 | 25·20 |
| | 31 | | | 25·29 |

**Piazzi IV. 22.**

| | | | | |
|---|---|---|---|---|
| Dec. | 23 | 4 | 8 | 5·89 |
| | 27 | | | 5·67 |
| | 31 | | | 5·63 |

**53 Persei.**

| | | | | |
|---|---|---|---|---|
| Dec. | 16 | 4 | 10 | 8·67 |

**55 Persei.**

| | | | | |
|---|---|---|---|---|
| Dec. | 23 | 4 | 14 | 14·85 |
| | 26 | | | 14·85 |
| | 27 | | | 14·89 |

**$\upsilon^1$ Tauri.**

| | | | | |
|---|---|---|---|---|
| Feb. | 19 | 4 | 16 | 51·86 |
| Dec. | 16 | | | 51·48 |

**ϱ Tauri.**

| | | | | |
|---|---|---|---|---|
| Jan. | 6 | 4 | 24 | 53·20 |
| | 7 | | | 53·37 |

**58 Persei.**

| | | | | |
|---|---|---|---|---|
| Dec. | 23 | 4 | 25 | 45·63 |

**α Tauri.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 4 | 26 | 51·61 |
| | 7 | | | 51·69 |
| | 8 | | | 51·66 |
| | 11 | | | 51·73 |
| | 12 | | | 51·70 |
| | 15 | | | 51·72 |
| | 17 | | | 51·58 |
| | 21 | | | 51·64 |
| | 22 | | | 51·77 |
| | 28 | | | 51·67 |
| Feb. | 19 | | | 51·71 |
| Mar. | 18 | | | 51·68 |
| | 24 | | | 51·65 |
| Apr. | 5 | | | 51·64 |
| | 8 | | | 51·69 |
| | 9 | | | 51·73 |
| Apr. | 11 | 4 | 26 | 51·68 |
| | 12 | | | 51·71 |
| | 26 | | | 51·57 |
| | 28 | | | 51·74 |
| | 29 | | | 51·63 |
| May | 6 | | | 51·69 |
| July | 31 | | | 51·67 |
| Aug. | 1 | | | 51·70 |
| Dec. | 13 | | | 51·77 |
| | 22 | | | 51·60 |

**2 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 24 | 4 | 27 | 28·23 |
| | 27 | | | 29·39 |

**Piazzi IV. 112.**

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | 4 | 27 | 41·74 |

**59 Persei.**

| | | | | |
|---|---|---|---|---|
| Dec. | 22 | 4 | 31 | 42·85 |
| | 23 | | | 42·93 |
| | 24 | | | 42·70 |

**4 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 23 | 4 | 34 | 52·41 |
| | 24 | | | 52·13 |
| | 26 | | | 52·00 |

**Piazzi IV. 170.**

| | | | | |
|---|---|---|---|---|
| Dec. | 16 | 4 | 37 | 19·99 |
| | 23 | | | 20·68 |
| | 24 | | | 20·37 |
| | 26 | | | 20·26 |

**1 Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 4 | 39 | 17·16 |
| | 31 | | | 17·19 |

**2 Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 23 | 4 | 42 | 4·12 |
| | 24 | | | 3·99 |
| | 26 | | | 3·89 |

**7 Camelopardi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 4 | 44 | 38·51 |
| | 7 | | | 38·42 |

**10 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Jan. | 7 | 4 | 49 | 23·48 |
| | 8 | | | 23·54 |
| | 11 | | | 23·85 |

**5 Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 17 | 4 | 49 | 27·40 |
| | 23 | | | 27·49 |
| | 24 | | | 27·22 |

**Piazzi IV. 254.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 4 | 52 | 31·03 |
| | 31 | | | 31·05 |

**ι Tauri.**

| | | | | |
|---|---|---|---|---|
| Jan. | 22 | 4 | 53 | 39·50 |

**9 Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 17 | 4 | 54 | 19·25 |
| | 23 | | | 19·31 |
| | 24 | | | 19·06 |

**A.S.C. 596.**

| | | | | |
|---|---|---|---|---|
| Jan. | 6 | 4 | 58 | 40·30 |
| | 7 | | | 40·30 |
| | 8 | | | 40·27 |
| | 12 | | | 40·29 |

**14 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 17 | 4 | 58 | 50·97 |
| | 24 | | | 50·77 |
| | 27 | | | 50·83 |
| | 31 | | | 50·46 |

**16 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 7 | 5 | 0 | 38·44 |
| | 12 | | | 38·35 |

**68 Eridani.**

| | | | | |
|---|---|---|---|---|
| Jan. | 6 | 5 | 0 | 53·98 |

**Groombridge 931.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 27 | 5 | 1 | 23·00 |
| | 29 | | | 22·55 |
| Feb. | 1 | | | 22·75 |
| | 3 | | | 22·53 |
| | 4 | | | 22·92 |

**λ Eridani.**

| | | | | |
|---|---|---|---|---|
| Jan. | 15 | 5 | 1 | 35·28 |
| | 17 | | | 35·16 |
| | 21 | | | 35·31 |

**μ Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 11 | 5 | 2 | 37·84 |

**Piazzi IV. 311.**

| | | | | |
|---|---|---|---|---|
| Dec. | 24 | 5 | 4 | 7·46 |
| | 27 | | | 7·06 |
| | 31 | | | 6·80 |

**α Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 1 | 5 | 5 | 1·54 |
| | 5 | | | 1·52 |
| | 19 | | | 1·56 |
| | 22 | | | 1·60 |
| | 24 | | | 1·51 |
| | 28 | | | 1·65 |
| | 31 | | | 1·47 |
| Feb. | 1 | | | 1·51 |
| | 4 | | | 1·54 |
| | 11 | | | 1·59 |
| | 16 | | | 1·73 |
| | 24 | | | 1·75 |
| | 25 | | | 1·69 |
| Mar. | 18 | | | 1·58 |
| | 19 | | | 1·77 |
| | 26 | | | 1·13 |
| Apr. | 20 | | | 1·75 |
| May | 17 | | | 1·49 |
| | 23 | | | 1·58 |
| June | 14 | | | 1·32 |
| July | 20 | | | 1·62 |
| | 31 | | | 1·66 |
| Aug. | 2 | | | 1·62 |
| | 29 | | | 1·70 |
| Nov. | 19 | | | 1·60 |
| Dec. | 17 | | | 1·73 |
| | 22 | | | 1·68 |
| | 26 | | | 1·57 |

**$\varrho^1$ Orionis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 4 | 5 | 5 | 2·11 |
| | 6 | | | 2·03 |
| | 7 | | | 2·05 |

**ϰ Leporis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 20 | 5 | 5 | 56·20 |
| | 21 | | | 56·28 |
| | 27 | | | 56·25 |

**A.S.C. 617.**

| | | | | |
|---|---|---|---|---|
| Jan. | 8 | 5 | 5 | 57·69 |
| | 12 | | | 57·75 |
| | 17 | | | 57·64 |

**β Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 5 | 5 | 6 | 56·82 |
| | 24 | | | 56·76 |
| | 25 | | | 56·86 |
| | 29 | | | 56·80 |
| | 31 | | | 56·79 |
| Feb. | 1 | | | 56·88 |
| | 3 | | | 56·85 |
| | 11 | | | 56·78 |
| | 15 | | | 56·80 |
| | 16 | | | 56·85 |
| | 19 | | | 56·90 |
| | 20 | | | 56·82 |
| | 24 | | | 56·84 |
| | 25 | | | 56·83 |
| | 26 | | | 56·87 |
| Mar. | 9 | | | 56·79 |
| Apr. | 18 | | | 56·84 |
| | 20 | | | 56·94 |
| July | 31 | | | 56·84 |
| Aug. | 2 | | | 56·84 |
| Dec. | 17 | | | 56·84 |
| | 26 | | | 56·93 |

**18 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 7 | 5 | 7 | 17·76 |
| | 8 | | | 17·66 |

**λ Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 8 | 1·98 |
| | 15 | | | 1·97 |
| | 19 | | | 2·24 |

**16 Camelopardi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Dec. | 27 | 5 | 9 | 57·01 |

**A.S.C. 626.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 10 | 24·95 |
| | 6 | | | 24·91 |

**21 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 8 | 5 | 10 | 56·84 |
| | 12 | | | 56·86 |
| | 15 | | | 56·94 |

**ν Leporis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 12 | 39·25 |
| | 6 | | | 39·32 |

**σ Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 5 | 13 | 55·29 |
| | 31 | | | 55·29 |

**111 Tauri.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 15 | 12·36 |
| | 15 | | | 12·47 |
| | 20 | | | 12·46 |

**ξ Leporis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 16 | 16·51 |
| | 6 | | | 16·53 |

**β Tauri.**

| | | | | |
|---|---|---|---|---|
| Jan. | 1 | 5 | 16 | 18·54 |
| | 5 | | | 18·41 |
| | 22 | | | 18·43 |
| Feb. | 20 | | | 18·54 |
| Mar. | 9 | | | 18·50 |
| April | 6 | | | 18·50 |
| | 16 | | | 18·36 |
| | 22 | | | 18·54 |
| | 25 | | | 18·53 |
| July | 20 | | | 18·48 |
| | 31 | | | 18·56 |
| Aug. | 2 | | | 18·54 |
| Nov. | 19 | | | 18·50 |
| Dec. | 17 | | | 18·53 |
| | 26 | | | 18·44 |

**29 Orionis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 8 | 5 | 16 | 20·28 |
| | 21 | | | 20·25 |
| | 24 | | | 20·36 |

**Piazzi V. 71.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 5 | 16 | 21·19 |
| | 31 | | | 21·09 |

**27 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 25 | 5 | 16 | 27·09 |

**η Orionis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 11 | 5 | 16 | 32·10 |
| | 16 | | | 32·22 |
| | 21 | | | 32·27 |

**$\psi^1$ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 27 | 5 | 16 | 32·87 |
| | 29 | | | 32·92 |
| Feb. | 3 | | | 32·93 |

**γ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 15 | 5 | 16 | 39·61 |
| | 17 | | | 39·69 |
| | 20 | | | 39·44 |

**113 Tauri.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 16 | 58·06 |
| Feb. | 15 | | | 58·13 |
| | 24 | | | 58·35 |

**φ Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 28 | 5 | 17 | 10·97 |
| Feb. | 25 | | | 10·84 |
| | 26 | | | 10·84 |

**18 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 5 | 19 | 2·47 |
| | 31 | | | 2·55 |

**A.S.C. 656.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 19 | 2·98 |
| | 15 | | | 2·96 |
| | 17 | | | 2·99 |

**A.S.C. 658.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 4 | 5 | 19 | 43·34 |
| | 6 | | | 43·29 |

**31 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 21 | 42·72 |

**32 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 22 | 19·92 |
| | 6 | | | 19·97 |
| | 8 | | | 19·92 |

**33 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 15 | 5 | 22 | 57·28 |
| | 17 | | | 57·27 |
| | 20 | | | 57·21 |

**δ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 5 | 5 | 23 | 56·19 |
| | 21 | | | 56·24 |
| | 24 | | | 56·27 |
| | 25 | | | 56·20 |
| | 27 | | | 56·22 |
| | 29 | | | 56·17 |
| Feb. | 1 | | | 56.25 |
| | 3 | | | 56·25 |
| | 4 | | | 56·21 |
| | 11 | | | 56·19 |
| | 12 | | | 56·20 |
| | 20 | | | 56·31 |
| | 21 | | | 56·22 |
| Mar. | 10 | | | 56·24 |
| | 11 | | | 56·22 |
| | 18 | | | 56·23 |
| Nov. | 19 | | | 56·25 |

**υ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 12 | 5 | 24 | 17·42 |

**22 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 5 | 25 | 45·34 |
| | 31 | | | 45·17 |

**38 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 25 | 57·97 |
| | 5 | | | 58·06 |
| | 6 | | | 58·04 |

**A.S.C. 674.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 15 | 5 | 26 | 0·77 |
| | 17 | | | 0·82 |
| | 21 | | | 0·68 |

**λ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 8 | 5 | 26 | 26·33 |
| | 12 | | | 26·26 |
| | 19 | | | 26·31 |

**42 Orionis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 1 | 5 | 27 | 35·61 |
| | 3 | | | 35·62 |
| | 11 | | | 35·50 |

**$\theta^2$ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 25 | 5 | 27 | 37·39 |
| | 27 | | | 37·56 |
| | 29 | | | 37·44 |

**ι Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 15 | 5 | 27 | 42·28 |
| | 17 | | | 42·22 |
| | 24 | | | 42·36 |

**ε Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 6 | 5 | 28 | 11·97 |
| | 12 | | | 11·95 |
| Feb. | 4 | | | 11·89 |
| | 20 | | | 11·95 |
| | 21 | | | 11·95 |
| Mar. | 8 | | | 12·06 |
| | 10 | | | 11·82 |
| | 11 | | | 11·88 |
| Aug. | 29 | | | 11·90 |
| | 30 | | | 12·02 |

**ζ Tauri.**

| | | | | |
|---|---|---|---|---|
| Mar. | 18 | 5 | 28 | 12·30 |
| Dec. | 17 | | | 12·46 |

**$\varphi^2$ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 28 | 13·62 |
| | 5 | | | 13·75 |

**ω Orionis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 12 | 5 | 30 | 50·70 |
| | 15 | | | 50·72 |
| | 17 | | | 50·78 |

**49 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 31 | 14·45 |
| | 5 | | | 14·43 |

**A.S.C. 694.**

| | | | | |
|---|---|---|---|---|
| Jan. | 20 | 5 | 31 | 39·08 |
| | 25 | | | 39·03 |
| | 27 | | | 39·04 |

**26 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 27 | 5 | 33 | 11·71 |

**51 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 34 | 18·50 |
| | 6 | | | 18·51 |
| | 8 | | | 18·48 |

**29 Camelopardi.**

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | 5 | 37 | 5·79 |

**52 Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | 5 | 39 | 31·02 |
| | 6 | | | 31·05 |
| | 15 | | | 30·96 |

**κ Orionis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 20 | 5 | 40 | 15·80 |
| | 25 | | | 15·65 |
| | 27 | | | 16·01 |

**υ Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Dec. | 31 | 5 | 40 | 16·00 |

**ν Aurigæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 21 | 5 | 40 | 32·35 |
| | 24 | | | 32·49 |

| 134 Tauri. | h. m. s. |
|---|---|
| Jan. 28 | 5 40 40·60 |
| 29 | 40·39 |
| Feb. 1 | 40·51 |

| 31 Camelopardi. | |
|---|---|
| Feb. 2 | 5 40 48·99 |
| 3 | 48·93 |
| 4 | 48·67 |

| ξ Aurigæ. | |
|---|---|
| Jan. 4 | 5 41 36·50 |
| 12 | 36·80 |
| 15 | 36·51 |

| 136 Tauri. | |
|---|---|
| Apr. 16 | 5 43 24·02 |
| Aug. 30 | 24·06 |

| 56 Orionis. | |
|---|---|
| Jan. 6 | 5 44 14·39 |
| 15 | 14·24 |
| 17 | 14·23 |

| α Orionis. | |
|---|---|
| Jan. 1 | 5 46 37·15 |
| 8 | 37·27 |
| 22 | 37·30 |
| 27 | 37·22 |
| 28 | 37·23 |
| 29 | 37·14 |
| 31 | 37·23 |
| Feb. 2 | 37·21 |
| 3 | 37·08 |
| 4 | 37·16 |
| 5 | 37·22 |
| 11 | 37·15 |
| 12 | 37·14 |
| 20 | 37·19 |
| 21 | 37·21 |
| 24 | 37·17 |
| Mar. 19 | 37·26 |
| 29 | 37·19 |
| Apr. 16 | 37·17 |
| 22 | 37·21 |
| 26 | 37·10 |
| 27 | 37·19 |
| May 2 | 37·19 |

| α Orionis. | h. m. s. |
|---|---|
| June 12 | 5 46 37·14 |
| Aug. 29 | 37·25 |
| 30 | 37·14 |

| π Aurigæ. | |
|---|---|
| Jan. 15 | 5 48 12·49 |
| 19 | 12·59 |
| 28 | 12·64 |

| η Leporis. | |
|---|---|
| Jan. 20 | 5 49 12·61 |
| 25 | 12·49 |
| 27 | 12·69 |

| 59 Orionis. | |
|---|---|
| Jan. 15 | 5 50 12·13 |
| 17 | 12·14 |
| 21 | 12·21 |

| 60 Orionis. | |
|---|---|
| Jan. 29 | 5 50 42·24 |
| 31 | 42·30 |
| Feb. 5 | 42·21 |

| 3 Monocerotis. | |
|---|---|
| Jan. 15 | 5 54 24·54 |
| 17 | 24·53 |
| 20 | 24·49 |

| 1 Geminorum. | |
|---|---|
| Jan. 24 | 5 54 31·00 |

| 66 Orionis. | |
|---|---|
| Jan. 15 | 5 56 37·51 |

| ρ Leporis. | |
|---|---|
| Jan. 25 | 5 57 56·19 |
| 27 | 56·26 |
| 29 | 56·21 |

| θ Leporis. | h. m. s. |
|---|---|
| Jan. 15 | 5 59 0·39 |
| 28 | 0·40 |
| Feb. 4 | 0·27 |

| τ Leporis. | |
|---|---|
| Jan. 17 | 6 0 49·43 |
| 20 | 49·43 |

| 4 Monocerotis. | |
|---|---|
| Jan. 25 | 6 1 1·34 |
| 29 | 1·34 |
| Feb. 3 | 1·36 |

| A.S.C. 761. | |
|---|---|
| Jan. 6 | 6 1 25·66 |
| 24 | 25·49 |
| Feb. 5 | 25·23 |
| 11 | 25·47 |
| 12 | 25·47 |

| 40 Camelopardi. | |
|---|---|
| Jan. 21 | 6 1 28·59 |
| Feb. 1 | 28·79 |
| 21 | 28·91 |
| 24 | 29·10 |
| 26 | 28·86 |

| 1 Lyncis. | |
|---|---|
| Jan. 15 | 6 3 20·50 |
| 17 | 20·51 |
| 27 | 20·33 |

| η Geminorum. | |
|---|---|
| Aug. 30 | 6 5 20·45 |

| 73 Orionis. | |
|---|---|
| Jan. 24 | 6 6 52·54 |
| 25 | 52·48 |
| 27 | 52·47 |

| 5 Monocerotis. | |
|---|---|
| Jan. 20 | 6 7 8·96 |
| 21 | 8·77 |

| 74 Orionis. | h. m. s. |
|---|---|
| Jan. 28 | 6 7 34·40 |
| 29 | 34·32 |
| 31 | 34·33 |

| 46 Aurigæ. | |
|---|---|
| Jan. 21 | 6 12 43·26 |
| 25 | 43·42 |
| Feb. 3 | 43·35 |

| μ Geminorum. | |
|---|---|
| Jan. 24 | 6 13 24·08 |
| 27 | 24·02 |
| 31 | 24·02 |
| Feb. 1 | 23·94 |
| 2 | 24·16 |
| 4 | 24·01 |
| 11 | 24·04 |
| 15 | 24·09 |
| Mar. 19 | 24·05 |
| 21 | 24·06 |
| 26 | 24·00 |
| Apr. 2 | 24·05 |
| 4 | 24·07 |
| 8 | 24·15 |
| 13 | 24·05 |
| 16 | 24·06 |
| 18 | 24·09 |
| Aug. 30 | 24·11 |
| Dec. 18 | 24·10 |

| A.S.C. 793. | |
|---|---|
| Jan. 21 | 6 14 59·00 |

| 8 Monocerotis. | |
|---|---|
| Jan. 24 | 6 15 23·79 |
| 28 | 23·77 |
| 31 | 23·76 |

| β Canis Majoris. | |
|---|---|
| Jan. 20 | 6 15 44·56 |
| 25 | 44·65 |
| 27 | 44·57 |

| Groombridge 1151. | |
|---|---|
| Feb. 5 | 6 15 51·90 |
| 21 | 52·94 |
| 25 | 52·31 |

| Groombridge 1151. | h. m. s. |
|---|---|
| Feb. 26 | 6 15 52·42 |
| Mar. 4 | 52·53 |

| 77 Orionis. | |
|---|---|
| Feb. 3 | 6 19 6·92 |

| 78 Orionis. | |
|---|---|
| Feb. 4 | 6 19 10·96 |
| 11 | 10·96 |
| 15 | 10·93 |

| 10 Monocerotis. | |
|---|---|
| Jan. 25 | 6 20 9·41 |
| 27 | 9·43 |
| 29 | 9·50 |

| 12 Monocerotis. | |
|---|---|
| Jan. 24 | 6 23 56·19 |
| 25 | 56·09 |

| 13 Monocerotis. | |
|---|---|
| Jan. 27 | 6 24 21·67 |
| 31 | 21·65 |
| Feb. 2 | 21·63 |

| 51 (Hev.) Cephei. | |
|---|---|
| Mar. 8 | 6 24 26·12 |
| 9 | 26·69 |
| 10 | 26·52 |
| 18 | 26·53 |
| 19 | 26·85 |

| A.S.C. 816. | |
|---|---|
| Jan. 29 | 6 24 58·44 |
| Feb. 3 | 58·37 |
| 4 | 58·40 |

| ν² Canis Majoris. | |
|---|---|
| Jan. 20 | 6 29 47·68 |
| 29 | 47·54 |

| ν³ Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 31 | 6 | 30 | 56·46 |
| Feb. | 2 | | | 56·64 |
| | 3 | | | 56·51 |

| 55 Aurigæ. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 4 | 6 | 31 | 34·60 |
| | 5 | | | 34·57 |
| | 15 | | | 34·62 |

| 15 Monocerotis. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 20 | 6 | 32 | 16·48 |
| | 24 | | | 16·59 |
| | 27 | | | 16·49 |

| ε Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 21 | 6 | 34 | 12·54 |
| Aug. | 30 | | | 12·58 |
| Dec. | 17 | | | 12·63 |
| | 18 | | | 12·46 |

| 42 Camelopardi. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 17 | 6 | 34 | 26·64 |
| | 31 | | | 26·65 |
| Feb. | 1 | | | 26·85 |
| | 2 | | | 26·68 |

| 43 Camelopardi. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 5 | 6 | 36 | 37·57 |
| | 11 | | | 37·76 |
| | 15 | | | 37·68 |
| Mar. | 10 | | | 37·88 |

| A.S.C. 834. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 20 | 6 | 36 | 55·37 |
| Feb. | 25 | | | 55·72 |
| | 26 | | | 55·91 |
| Mar. | 8 | | | 55·59 |
| | 9 | | | 55·91 |

| α Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 2 | 6 | 38 | 11·21 |
| Mar. | 29 | | | 11·26 |
| | 30 | | | 11·24 |
| Apr. | 2 | | | 11·26 |
| | 4 | | | 11·21 |
| | 9 | | | 11·32 |
| Apr. | 11 | 6 | 38 | 11·28 |
| | 15 | | | 11·31 |
| | 16 | | | 11·39 |
| | 17 | | | 11·38 |
| | 18 | | | 11·28 |
| | 19 | | | 11·32 |
| Dec. | 18 | | | 11·37 |

| 17 Monocerotis. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 31 | 6 | 38 | 45·02 |
| Feb. | 3 | | | 44·91 |
| | 4 | | | 44·87 |

| ψ² Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 25 | 6 | 39 | 38·67 |
| | 29 | | | 38·78 |

| π³ Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 20 | 6 | 48 | 46·35 |
| | 25 | | | 46·39 |
| | 29 | | | 46·36 |

| μ Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 2 | 6 | 48 | 52·27 |
| | 3 | | | 52·25 |
| | 5 | | | 52·22 |

| ι Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 31 | 6 | 49 | 5·45 |

| ζ Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 21 | 6 | 54 | 44·16 |
| Apr. | 16 | | | 44·07 |
| | 17 | | | 44·09 |
| Aug. | 30 | | | 44·13 |

| γ Canis Majoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 20 | 6 | 56 | 36·65 |

| A.S.C. 874. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 21 | 6 | 57 | 26·47 |
| | 27 | | | 26·45 |
| | 29 | | | 26·27 |
| Feb. | 25 | 6 | 57 | 27·24 |
| | 26 | | | 26·48 |

| Piazzi VI. 334. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 27 | 7 | 5 | 34·03 |
| | 29 | | | 34·24 |
| | 31 | | | 34·24 |
| Feb. | 1 | | | 34·52 |
| | 2 | | | 34·52 |
| | 3 | | | 33·82 |

| 64 Aurigæ. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 5 | 7 | 7 | 2·24 |
| | 11 | | | 2·37 |
| | 12 | | | 2·35 |

| δ Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 25 | 7 | 10 | 40·95 |
| | 28 | | | 40·94 |
| | 31 | | | 40·90 |
| Feb. | 1 | | | 40·91 |
| | 2 | | | 40·88 |
| | 3 | | | 40·95 |
| | 12 | | | 40·93 |
| | 23 | | | 40·95 |
| | 26 | | | 40·94 |
| Mar. | 1 | | | 41·00 |
| | 2 | | | 41·01 |
| | 8 | | | 40·91 |
| | 9 | | | 41·02 |
| | 10 | | | 40·90 |
| | 29 | | | 40·92 |
| Apr. | 15 | | | 40·95 |
| | 16 | | | 41·00 |
| | 17 | | | 41·03 |
| Sept. | 28 | | | 41·00 |
| Dec. | 18 | | | 40·91 |

| 65 Aurigæ. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 29 | 7 | 11 | 28·67 |
| Feb. | 5 | | | 28·53 |

| 57 Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 1 | 7 | 13 | 50·20 |
| | 5 | | | 50·13 |
| | 16 | | | 50·39 |

| α² Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 14 | 7 | 24 | 30·60 |
| | 15 | | | 30·62 |
| | 16 | | | 30·69 |
| | 21 | | | 30·66 |
| | 23 | | | 30·62 |
| | 24 | | | 30·71 |
| | 26 | | | 30·64 |
| Mar. | 1 | | | 30·73 |
| | 2 | | | 30·63 |
| | 4 | | | 30·63 |
| | 8 | | | 30·49 |
| | 10 | | | 30·63 |
| | 11 | | | 30·68 |
| | 21 | | | 30·60 |
| | 31 | | | 30·57 |
| Apr. | 6 | | | 30·68 |
| | 11 | | | 30·67 |
| | 12 | | | 30·58 |
| | 13 | | | 30·55 |
| | 14 | | | 30·58 |
| | 17 | | | 30·63 |
| | 19 | | | 30·63 |
| | 20 | | | 30·65 |
| May | 15 | | | 30·65 |
| | 27 | | | 30·65 |
| June | 10 | | | 30·59 |
| | 11 | | | 30·65 |
| | 21 | | | 30·67 |
| Sept. | 28 | | | 30·57 |
| Dec. | 18 | | | 30·50 |

| δ² Canis Minoris. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 31 | 7 | 24 | 54·63 |
| Feb. | 1 | | | 54·54 |
| | 5 | | | 54·51 |

| υ Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 21 | 7 | 26 | 10·87 |

| A.S.C. 934. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 1 | 7 | 27 | 47·84 |
| | 5 | | | 47·86 |

| 74 Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 1 | 7 | 30 | 20·88 |
| | 5 | | | 20·83 |

| α Canis Minoris. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 14 | 7 | 31 | 1·69 |
| | 21 | | | 1·77 |
| | 25 | | | 1·68 |
| | 26 | | | 1·82 |
| Mar. | 1 | | | 1·64 |
| | 2 | | | 1·78 |
| | 4 | | | 1·67 |
| | 8 | | | 1·63 |
| | 9 | | | 1·66 |
| | 10 | | | 1·66 |
| | 11 | | | 1·84 |
| | 21 | | | 1·71 |
| | 28 | | | 1·60 |
| Apr. | 6 | | | 1·65 |
| | 11 | | | 1·63 |
| | 12 | | | 1·69 |
| | 13 | | | 1·65 |
| | 15 | | | 1·72 |
| | 17 | | | 1·61 |
| | 18 | | | 1·57 |
| | 19 | | | 1·67 |
| | 20 | | | 1·57 |
| | 21 | | | 1·70 |
| | 23 | | | 1·75 |
| | 27 | | | 1·74 |
| May | 15 | | | 1·63 |
| June | 2 | | | 1·65 |
| | 7 | | | 1·67 |
| | 9 | | | 1·66 |
| | 10 | | | 1·69 |
| | 11 | | | 1·75 |
| | 12 | | | 1·69 |
| | 13 | | | 1·68 |
| Sept. | 28 | | | 1·72 |
| Dec. | 18 | | | 1·59 |

| κ Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 25 | 7 | 34 | 54·02 |
| Dec. | 18 | | | 54·16 |

| β Geminorum. | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 5 | 7 | 35 | 38·27 |
| | 14 | | | 38·41 |
| | 21 | | | 38·33 |
| | 23 | | | 38·41 |
| | 25 | | | 38·38 |
| | 26 | | | 38·40 |
| Mar. | 1 | | | 38·34 |
| | 2 | | | 38·37 |
| | 4 | | | 38·44 |
| | 8 | | | 38·32 |
| | 9 | | | 38·42 |

| β Geminorum. | h. | m. | s. |
|---|---|---|---|
| Mar. 11 | 7 | 35 | 38·42 |
| 14 | | | 38·27 |
| 21 | | | 38·39 |
| 26 | | | 38·46 |
| 28 | | | 38·40 |
| Apr. 6 | | | 38·33 |
| 8 | | | 38·36 |
| 11 | | | 38·46 |
| 13 | | | 38·44 |
| 15 | | | 38·34 |
| 17 | | | 38·38 |
| 19 | | | 38·42 |
| 20 | | | 38·44 |
| 21 | | | 38·44 |
| 23 | | | 38·32 |
| 27 | | | 38·31 |
| 28 | | | 38·41 |
| May 15 | | | 38·47 |
| June 8 | | | 38·43 |
| 11 | | | 38·32 |
| 12 | | | 38·29 |
| 13 | | | 38·35 |
| 14 | | | 38·40 |
| 21 | | | 38·43 |
| 22 | | | 38·43 |
| 27 | | | 38·39 |
| Sept. 28 | | | 38·36 |

| 6 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 15 | 7 | 42 | 33·12 |
| 21 | | | 33·10 |
| 25 | | | 33·29 |

| A.S.C. 960. | h. | m. | s. |
|---|---|---|---|
| Feb. 1 | 7 | 42 | 45·08 |
| 5 | | | 45·05 |

| ζ Canis Minoris. | h. | m. | s. |
|---|---|---|---|
| Feb. 11 | 7 | 43 | 30·20 |
| 12 | | | 30·19 |
| 24 | | | 30·42 |
| 26 | | | 30·26 |

| 10 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 5 | 7 | 45 | 2·54 |
| 15 | | | 2·80 |
| 21 | | | 2·70 |

| 28 Monocerotis. | h. | m. | s. |
|---|---|---|---|
| Feb. 5 | 7 | 53 | 10·96 |
| 11 | | | 10·98 |
| 15 | | | 11·07 |

| 27 Lyncis. | h. | m. | s. |
|---|---|---|---|
| Feb. 14 | 7 | 56 | 32·73 |
| 15 | | | 32·59 |
| 16 | | | 32·74 |

| 55 Camelopardi. | h. | m. | s. |
|---|---|---|---|
| Feb. 12 | 7 | 56 | 59·96 |
| 21 | | | 60·21 |
| 24 | | | 60·50 |
| 25 | | | 60·23 |

| 16 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 1 | 58·61 |
| 21 | | | 58·60 |
| 25 | | | 58·45 |

| ζ Cancri, preceding. | h. | m. | s. |
|---|---|---|---|
| Apr. 17 | 8 | 3 | 8·73 |
| 18 | | | 8·73 |

| 18 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 24 | 8 | 3 | 20·57 |
| Mar. 1 | | | 20·51 |
| 4 | | | 20·46 |

| 19 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 3 | 51·52 |
| 21 | | | 51·62 |
| 25 | | | 51·68 |

| 20 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 6 | 4·28 |
| 21 | | | 4·40 |
| 24 | | | 4·54 |

| β Cancri. | h. | m. | s. |
|---|---|---|---|
| Feb. 14 | 8 | 7 | 56·64 |
| 25 | | | 56·58 |

| 21 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 10 | 8·57 |
| 21 | | | 8·55 |
| 24 | | | 8·63 |

| 31 Lyncis. | h. | m. | s. |
|---|---|---|---|
| Feb. 15 | 8 | 11 | 59·83 |
| 25 | | | 59·98 |
| 26 | | | 60·03 |

| 22 Argus. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 15 | 21·41 |
| 21 | | | 21·31 |

| 1 Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 25 | 8 | 16 | 42·48 |

| ο Ursæ Majoris. | h. | m. | s. |
|---|---|---|---|
| Mar. 30 | 8 | 17 | 5·55 |
| Apr. 4 | | | 5·08 |
| 5 | | | 4·93 |
| 8 | | | 4·99 |
| 9 | | | 5·09 |

| Groombridge 1431. | h. | m. | s. |
|---|---|---|---|
| Mar. 8 | 8 | 17 | 10·82 |
| 9 | | | 11·04 |
| 14 | | | 10·72 |
| 19 | | | 10·21 |
| 26 | | | 10·96 |

| A.S.C. 1026. | h. | m. | s. |
|---|---|---|---|
| Feb. 26 | 8 | 17 | 26·14 |
| Mar. 2 | | | 26·08 |
| 4 | | | 26·00 |

| 30 Monocerotis. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 17 | 45·87 |
| 21 | | | 45·93 |
| 24 | | | 45·87 |

| θ Cancri. | h. | m. | s. |
|---|---|---|---|
| Oct. 26 | 8 | 22 | 34·77 |

| $\pi^2$ Ursæ Majoris. | h. | m. | s. |
|---|---|---|---|
| Feb. 15 | 8 | 26 | 20·05 |
| 25 | | | 20·11 |
| 26 | | | 20·04 |
| Mar. 1 | | | 20·11 |
| 2 | | | 20·10 |

| * D. + 20° 16′. | h. | m. | s. |
|---|---|---|---|
| Feb. 21 | 8 | 28 | 31·92 |
| 24 | | | 32·04 |

| σ Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 15 | 8 | 30 | 29·84 |
| 16 | | | 29·85 |

| 9 Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 34 | 23·59 |

| η Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 21 | 8 | 34 | 57·80 |
| 24 | | | 57·95 |
| 25 | | | 57·84 |

| δ Cancri. | h. | m. | s. |
|---|---|---|---|
| Jan. 25 | 8 | 35 | 41·83 |
| Apr. 18 | | | 41·92 |
| Sept. 28 | | | 41·99 |

| ι Cancri. | h. | m. | s. |
|---|---|---|---|
| Feb. 15 | 8 | 37 | 7·47 |
| 16 | | | 7·56 |

| ε Hydræ. | h. | m. | s. |
|---|---|---|---|
| Jan. 26 | 8 | 38 | 24·26 |
| Feb. 18 | | | 24·32 |
| Mar. 4 | | | 24·28 |
| 14 | | | 24·46 |
| 18 | | | 24·28 |
| 19 | | | 24·24 |
| 26 | | | 24·34 |
| 29 | | | 24·26 |
| 30 | | | 24·36 |
| 31 | | | 24·34 |
| Apr. 4 | | | 24·23 |
| 18 | | | 24·26 |
| May 4 | | | 24·30 |

| ε Hydræ. | h. | m. | s. |
|---|---|---|---|
| June 12 | 8 | 38 | 24·43 |
| Sept. 28 | | | 24·32 |
| Oct. 26 | | | 24·31 |

| 12 Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 21 | 8 | 38 | 54·84 |
| 24 | | | 54·81 |
| 25 | | | 54·79 |

| A.S.C. 1075. | h. | m. | s. |
|---|---|---|---|
| Feb. 26 | 8 | 39 | 14·42 |
| Mar. 1 | | | 14·45 |
| 2 | | | 14·49 |

| $\rho^1$ Cancri. | h. | m. | s. |
|---|---|---|---|
| Feb. 25 | 8 | 42 | 58·06 |
| 26 | | | 57·94 |
| Mar. 1 | | | 57·99 |

| $\rho^2$ Cancri. | h. | m. | s. |
|---|---|---|---|
| Feb. 16 | 8 | 43 | 10·55 |

| $\alpha^2$ Cancri. | h. | m. | s. |
|---|---|---|---|
| Apr. 18 | 8 | 49 | 50·44 |
| 19 | | | 50·51 |
| Oct. 27 | | | 50·31 |

| 18 Ursæ Majoris. | h. | m. | s. |
|---|---|---|---|
| Mar. 2 | 9 | 4 | 46·79 |
| 4 | | | 46·76 |
| 9 | | | 46·81 |
| 10 | | | 46·75 |
| 18 | | | 46·85 |

| θ Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 21 | 9 | 6 | 8·63 |
| 24 | | | 8·57 |
| 26 | | | 8·49 |

| 24 Hydræ. | h. | m. | s. |
|---|---|---|---|
| Feb. 24 | 9 | 8 | 57·00 |
| 25 | | | 57·08 |
| 26 | | | 57·12 |

**38 Lyncis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 2 | 9 | 8 | 59·63 |
| | 4 | | | 59·71 |
| | 8 | | | 59·54 |

**83 Cancri.**

| | | | | |
|---|---|---|---|---|
| Oct. | 27 | 9 | 10 | 9·29 |

**26 Hydræ.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 12 | 9·93 |
| | 25 | | | 9·89 |
| | 26 | | | 9·81 |

**A.S.C. 1135.**

| | | | | |
|---|---|---|---|---|
| Mar. | 4 | 9 | 14 | 0·91 |
| | 8 | | | 0·74 |
| | 9 | | | 1·21 |
| | 10 | | | 0·73 |
| | 18 | | | 0·98 |

**ϰ Leonis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 15 | 26·56 |
| | 25 | | | 26·50 |
| | 26 | | | 26·55 |

**28 Hydræ.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 17 | 30·08 |
| | 25 | | | 30·12 |
| | 26 | | | 30·08 |

**23 Ursæ Majoris.**

| | | | | |
|---|---|---|---|---|
| Mar. | 4 | 9 | 19 | 0·26 |
| | 9 | | | 0·39 |
| | 26 | | | 0·28 |
| Apr. | 2 | | | 0·15 |
| | 5 | | | 0·25 |

**α Hydræ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 26 | 9 | 19 | 49·49 |
| Feb. | 18 | | | 49·40 |
| | 23 | | | 49·43 |
| Mar. | 2 | | | 49·46 |
| | 22 | | | 49·33 |
| | 24 | | | 49·43 |
| Apr. | 8 | | | 49·46 |
| Oct. | 14 | | | 49·26 |

**24 Ursæ Majoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 9 | 20 | 23·68 |
| | 19 | | | 23·66 |

**ξ Leonis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 27 | 9 | 23 | 25·45 |
| Mar. | 22 | | | 25·44 |

**10 Leonis Minoris.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 24 | 31·70 |
| | 25 | | | 31·64 |
| | 26 | | | 31·62 |

**33 Hydræ.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 26 | 39·68 |
| | 25 | | | 39·69 |
| | 26 | | | 39·63 |

**Groombridge 1562.**

| | | | | |
|---|---|---|---|---|
| Mar. | 8 | 9 | 28 | 12·24 |
| | 9 | | | 12·07 |
| | 18 | | | 11·62 |
| | 19 | | | 11·35 |
| | 26 | | | 12·18 |

**13 Leonis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 25 | 9 | 32 | 32·57 |
| | 26 | | | 32·55 |
| Mar. | 2 | | | 32·60 |

**ο Leonis.**

| | | | | |
|---|---|---|---|---|
| Jan. | 26 | 9 | 32 | 42·89 |
| | 27 | | | 42·71 |
| Feb. | 23 | | | 42·71 |
| | 24 | | | 42·69 |
| Mar. | 22 | | | 42·81 |
| May | 17 | | | 42·85 |

**ε Leonis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 18 | 9 | 36 | 52·31 |
| | 23 | | | 52·34 |
| Mar. | 12 | | | 52·37 |
| | 17 | | | 52·35 |
| | 22 | | | 52·33 |
| | 24 | | | 52·30 |
| | 26 | | | 52·37 |
| Apr. | 2 | | | 52·26 |

**ε Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 4 | 9 | 36 | 52·29 |
| | 5 | | | 52·36 |
| | 8 | | | 52·28 |
| | 19 | | | 52·33 |
| | 21 | | | 52·26 |
| | 28 | | | 52·36 |
| | 29 | | | 52·34 |
| May | 2 | | | 52·33 |
| | 4 | | | 52·30 |
| | 17 | | | 52·34 |
| June | 11 | | | 52·36 |
| Oct. | 3 | | | 52·40 |
| | 14 | | | 52·38 |
| | 28 | | | 52·32 |

**υ Ursæ Majoris.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 39 | 42·34 |
| | 25 | | | 42·01 |
| | 26 | | | 42·04 |
| Mar. | 4 | | | 42·13 |
| | 9 | | | 42·02 |

**φ Ursæ Majoris.**

| | | | | |
|---|---|---|---|---|
| Mar. | 2 | 9 | 41 | 19·04 |
| | 8 | | | 18·94 |
| | 10 | | | 19·11 |
| | 18 | | | 18·82 |
| | 19 | | | 18·85 |

**μ Leonis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 4 | 9 | 43 | 46·08 |
| | 9 | | | 46·03 |
| | 19 | | | 45·97 |

**$\upsilon^{1}$ Hydræ.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 9 | 43 | 52·85 |
| | 25 | | | 52·94 |
| | 26 | | | 52·90 |

**8 Sextantis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 2 | 9 | 44 | 41·24 |
| - | 8 | | | 41·17 |
| | 18 | | | 41·14 |

**ϖ Leonis.**

| | | | | |
|---|---|---|---|---|
| Apr. | 20 | 9 | 51 | 51·55 |
| Oct. | 28 | | | 51·60 |

**15 Sextantis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 25 | 9 | 59 | 51·16 |
| Mar. | 8 | | | 50·99 |
| | 9 | | | 50·94 |

**α Leonis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 22 | 9 | 59 | 57·12 |
| | 24 | | | 57·09 |
| Mar. | 7 | | | 57·13 |
| | 12 | | | 57·09 |
| | 17 | | | 57·21 |
| | 22 | | | 57·10 |
| | 24 | | | 57·10 |
| | 28 | | | 57·17 |
| | 30 | | | 57·19 |
| | 31 | | | 57·26 |
| Apr. | 2 | | | 57·13 |
| | 4 | | | 57·12 |
| | 5 | | | 57·18 |
| | 12 | | | 57·06 |
| | 19 | | | 57·14 |
| | 20 | | | 57·12 |
| | 21 | | | 57·09 |
| | 22 | | | 57·10 |
| | 29 | | | 57·11 |
| May | 2 | | | 57·11 |
| | 4 | | | 57·12 |
| | 6 | | | 57·15 |
| | 17 | | | 57·21 |
| | 30 | | | 57·10 |
| | 31 | | | 57·13 |
| June | 2 | | | 57·11 |
| | 13 | | | 57·10 |
| | 14 | | | 57·14 |
| July | 12 | | | 57·17 |
| | 14 | | | 57·11 |
| | 15 | | | 57·11 |
| | 21 | | | 57·12 |
| | 22 | | | 57·10 |
| Sept. | 19 | | | 57·11 |
| | 30 | | | 57·13 |
| Oct. | 3 | | | 57·10 |
| | 14 | | | 57·12 |
| | 27 | | | 57·11 |
| | 28 | | | 57·10 |

**17 Sextantis.**

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 10 | 2 | 16·61 |
| | 25 | | | 16·67 |
| | 26 | | | 16·67 |

**18 Sextantis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 3 | 4·46 |
| | 19 | | | 4·55 |
| | 26 | | | 4·52 |

**A.S.C. 1215.**

| | | | | |
|---|---|---|---|---|
| Mar. | 17 | 10 | 3 | 24·32 |
| | 28 | | | 24·38 |
| | 30 | | | 24·44 |

**35 Leonis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 26 | 10 | 7 | 46·84 |
| | 28 | | | 46·79 |
| Apr. | 2 | | | 46·83 |

**ζ Leonis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 17 | 10 | 7 | 53·53 |
| | 19 | | | 53·56 |
| Apr. | 4 | | | 53·48 |

**Piazzi X. 22.**

| | | | | |
|---|---|---|---|---|
| Mar. | 18 | 10 | 11 | 11·24 |
| Apr. | 5 | | | 11·42 |
| | 8 | | | 10·69 |
| | 12 | | | 11·05 |
| | 13 | | | 11·36 |

**31 Leonis Minoris.**

| | | | | |
|---|---|---|---|---|
| Mar. | 17 | 10 | 18 | 43·53 |
| | 28 | | | 43·69 |
| Apr. | 2 | | | 43·66 |

**27 Sextantis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 18 | 10 | 18 | 47·94 |
| | 19 | | | 47·93 |
| | 26 | | | 48·03 |

**36 Ursæ Majoris.**

| | | | | |
|---|---|---|---|---|
| Mar. | 31 | 10 | 20 | 28·42 |
| Apr. | 4 | | | 28·40 |
| | 5 | | | 28·36 |

**ϱ Leonis.**

| | | | | |
|---|---|---|---|---|
| Mar. | 24 | 10 | 24 | 29·26 |
| May | 17 | | | 29·41 |

**37 Ursæ Majoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 17 | 10 | 24 | 56·16 |
| | 18 | | | 56·19 |
| | 19 | | | 56·21 |
| | 26 | | | 56·49 |
| | 28 | | | 56·43 |

**48 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 24 | 10 | 26 | 33·30 |
| | 25 | | | 33·44 |

**37 Leonis Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 17 | 10 | 29 | 48·88 |
| | 18 | | | 48·66 |
| | 19 | | | 48·73 |

**34 Sextantis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 20 | 10 | 34 | 27·95 |
| | 21 | | | 27·84 |

**41 Leonis Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 17 | 10 | 34 | 49·02 |
| | 18 | | | 49·00 |
| | 19 | | | 48·92 |

**42 Leonis Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 37 | 3·92 |
| | 19 | | | 3·86 |
| | 26 | | | 4·01 |

**51 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 28 | 10 | 37 | 53·32 |
| Apr. | 2 | | | 53·47 |
| | 4 | | | 53·33 |

**41 Sextantis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 42 | 22·59 |
| | 19 | | | 22·57 |
| | 26 | | | 22·57 |

**46 Leonis Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 44 | 27·59 |
| | 19 | | | 27·51 |
| | 26 | | | 27·63 |

**ω Ursæ Majoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 28 | 10 | 44 | 51·75 |
| Apr. | 2 | | | 51·73 |
| | 4 | | | 51·70 |

**54 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 47 | 2·93 |
| | 19 | | | 2·90 |
| | 26 | | | 2·84 |

**50 Leonis Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 2 | 10 | 47 | 59·45 |
| | 4 | | | 59·39 |
| | 5 | | | 59·53 |

**58 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 20 | 10 | 52 | 24·10 |
| | 21 | | | 23·99 |
| Oct. | 28 | | | 24·02 |

**60 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 18 | 10 | 53 | 53·32 |
| | 19 | | | 53·11 |
| | 26 | | | 53·25 |

**χ Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 24 | 10 | 56 | 51·95 |
| Mar. | 24 | | | 51·90 |

**δ Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 17 | 11 | 5 | 41·91 |
| | 26 | | | 41·83 |
| | 28 | | | 41·91 |
| | 29 | | | 41·94 |
| Apr. | 2 | | | 41·85 |
| | 13 | | | 41·86 |
| | 16 | | | 41·72 |
| | 21 | | | 41·90 |
| | 22 | | | 41·79 |
| | 25 | | | 41·75 |
| | 26 | | | 41·81 |
| | 27 | | | 41·82 |
| | 28 | | | 41·82 |
| | 29 | | | 41·91 |
| May | 2 | | | 41·76 |
| | 4 | | | 41·83 |
| | 6 | | | 41·89 |
| | 12 | | | 41·82 |

**δ Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 17 | 11 | 5 | 41·92 |
| | 25 | | | 41·95 |
| | 30 | | | 41·82 |
| | 31 | | | 41·95 |
| June | 11 | | | 41·88 |
| Oct. | 28 | | | 41·88 |

**ξ Ursæ Majoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 29 | 11 | 9 | 44·67 |
| Apr. | 4 | | | 44·51 |
| | 5 | | | 44·43 |

**ι Ursæ Majoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 31 | 11 | 9 | 56·01 |
| Apr. | 2 | | | 55·84 |
| | 8 | | | 55·78 |

**δ Hydræ et Crateris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 2 | 11 | 11 | 26·67 |
| | 22 | | | 26·78 |
| | 28 | | | 26·78 |
| May | 2 | | | 26·76 |
| | 4 | | | 26·77 |

**γ Hydræ et Crateris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 2 | 11 | 16 | 59·75 |
| | 4 | | | 59·65 |
| | 5 | | | 59·76 |

**81 Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 28 | 11 | 17 | 21·85 |
| | 30 | | | 21·86 |
| Apr. | 8 | | | 21·83 |

**Groombridge 1782.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 11 | 11 | 20 | 25·83 |
| | 16 | | | 25·53 |
| | 18 | | | 25·99 |
| | 19 | | | 25·86 |
| | 20 | | | 26·37 |

**90 Leonis, following.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 2 | 11 | 26 | 28·76 |
| | 4 | | | 28·84 |
| | 5 | | | 28·87 |

**A.S.C. 1359.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 9 | 11 | 27 | 58·69 |
| | 11 | | | 58·30 |
| | 12 | | | 58·48 |

**ν Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 26 | 11 | 28 | 51·69 |
| Apr. | 21 | | | 51·68 |
| | 22 | | | 51·62 |

**β Leonis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 28 | 11 | 40 | 59·81 |
| Apr. | 2 | | | 59·91 |
| | 9 | | | 59·83 |
| | 16 | | | 59·82 |
| | 25 | | | 59·77 |
| | 26 | | | 59·79 |
| | 29 | | | 59·72 |
| May | 6 | | | 59·75 |
| | 12 | | | 59·83 |
| | 25 | | | 59·86 |
| | 28 | | | 59·97 |
| | 30 | | | 59·72 |
| | 31 | | | 59·84 |
| June | 2 | | | 59·79 |
| | 6 | | | 59·83 |
| | 10 | | | 59·90 |
| | 11 | | | 59·77 |
| July | 12 | | | 59·82 |
| Oct. | 17 | | | 59·79 |
| | 28 | | | 59·72 |
| | 31 | | | 59·70 |

**β Virginis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Feb. | 26 | 11 | 42 | 28·13 |
| Apr. | 21 | | | 28·06 |
| | 22 | | | 28 01 |
| July | 12 | | | 28·09 |

**Groombridge 1858.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 9 | 12 | 3 | 45·65 |
| | 29 | | | 45·85 |
| May | 4 | | | 45·89 |
| | 6 | | | 45·86 |
| | 12 | | | 46·17 |

**γ Corvi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 11 | 12 | 7 | 41·16 |
| | 12 | | | 41·37 |
| | 16 | | | 41·50 |

**6 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 18 | 12 | 7 | 58·57 |
| | 19 | | | 58·61 |
| | 20 | | | 58·84 |

**7 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 21 | 12 | 8 | 20·55 |
| | 26 | | | 20·53 |
| | 28 | | | 20·52 |

**η Virginis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Mar. | 26 | 12 | 11 | 49·50 |

**12 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 9 | 12 | 14 | 33·42 |
| | 11 | | | 33·29 |
| | 12 | | | 33·39 |

**13 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 11 | 12 | 16 | 22·43 |
| | 12 | | | 22·55 |
| | 16 | | | 22·68 |

**14 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 11 | 12 | 18 | 29·44 |
| | 12 | | | 29·47 |

**15 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 16 | 12 | 19 | 3·50 |
| | 19 | | | 3·35 |
| | 20 | | | 3·39 |

**16 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 21 | 12 | 19 | 4·94 |
| | 22 | | | 4·92 |
| | 25 | | | 4·82 |

**21 Comæ Berenices.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 18 | 12 | 23 | 6·72 |
| | 19 | | | 6·77 |
| | 20 | | | 6·99 |

| η Corvi. | | | | |
|---|---|---|---|---|
| | | h. | m. | s. |
| Apr. | 11 | 12 | 23 | 55·88 |
| | 12 | | | 56·16 |
| | 16 | | | 56·29 |

| 21 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 22 | 12 | 25 | 37·68 |

| 22 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 18 | 12 | 25 | 41·36 |
| | 19 | | | 41·36 |
| | 20 | | | 41·53 |

| 8 Canum Venaticorum. | | | | |
|---|---|---|---|---|
| Apr. | 21 | 12 | 26 | 13·60 |
| | 26 | | | 13·52 |
| | 28 | | | 13·52 |

| 23 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 11 | 12 | 26 | 58·13 |
| | 12 | | | 58·39 |
| | 16 | | | 58·49 |

| 24 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 18 | 12 | 27 | 12·00 |
| | 19 | | | 12·08 |
| | 20 | | | 12·29 |

| 25 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 11 | 12 | 29 | 2·64 |
| | 16 | | | 2·96 |
| | 18 | | | 2·75 |

| 31 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 18 | 12 | 33 | 56·79 |
| | 19 | | | 56·92 |
| | 20 | | | 56·96 |

| 33 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 11 | 12 | 38 | 20·75 |
| | 12 | | | 21·00 |
| | 16 | | | 20·99 |

| 27 Comæ Berenices. | | | | |
|---|---|---|---|---|
| | | h. | m. | s. |
| Apr. | 18 | 12 | 38 | 44·89 |
| | 19 | | | 45·18 |
| | 20 | | | 45·19 |

| 34 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | 12 | 39 | 16·44 |
| | 26 | | | 16·39 |
| | 28 | | | 16·39 |

| 41 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 16 | 12 | 45 | 54·15 |
| | 18 | | | 53·94 |
| | 19 | | | 54·07 |

| ψ Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 22 | 12 | 46 | 8·52 |

| ε Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Apr. | 20 | 12 | 47 | 3·91 |
| | 21 | | | 3·72 |
| | 25 | | | 3·57 |

| 12 Canum Venaticorum. | | | | |
|---|---|---|---|---|
| May | 25 | 12 | 48 | 37·76 |
| | 27 | | | 37·81 |
| | 28 | | | 37·77 |
| | 30 | | | 37·65 |
| | 31 | | | 37·67 |
| June | 3 | | | 37·70 |
| | 6 | | | 37·65 |
| | 7 | | | 37·74 |
| | 8 | | | 37·89 |
| | 14 | | | 37·60 |
| | 18 | | | 37·62 |
| | 27 | | | 37·57 |
| July | 13 | | | 37·57 |
| | 14 | | | 37·63 |
| | 15 | | | 37·69 |
| | 19 | | | 37·52 |
| | 23 | | | 37·66 |
| Oct. | 28 | | | 37·61 |
| | 31 | | | 37·71 |
| Nov. | 3 | | | 37·60 |

| 39 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 16 | 12 | 58 | 39·13 |
| | 18 | | | 38·88 |
| | 19 | | | 39·09 |

| 40 Comæ Berenices. | | | | |
|---|---|---|---|---|
| | | h. | m. | s. |
| Apr. | 20 | 12 | 58 | 41·19 |
| | 21 | | | 41·04 |
| | 22 | | | 40·95 |

| 41 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 25 | 12 | 59 | 35·61 |
| | 26 | | | 35·64 |
| | 28 | | | 35·55 |

| θ Virginis. | | | | |
|---|---|---|---|---|
| Mar. | 26 | 13 | 1 | 46·55 |

| 53 Virginis. | | | | |
|---|---|---|---|---|
| May | 21 | 13 | 3 | 39·68 |

| 57 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 18 | 13 | 7 | 26·73 |
| | 19 | | | 26·81 |
| | 20 | | | 27·04 |

| 59 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 21 | 13 | 8 | 56·03 |
| | 22 | | | 56·00 |
| | 25 | | | 56·08 |

| σ Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 26 | 13 | 9 | 37·78 |
| | 28 | | | 37·73 |
| | 29 | | | 37·75 |

| Groombridge 1977. | | | | |
|---|---|---|---|---|
| May | 2 | 13 | 11 | 5·95 |
| | 6 | | | 6·13 |
| | 21 | | | 6·51 |
| | 28 | | | 6·17 |
| | 30 | | | 6·24 |

| α Virginis. | | | | |
|---|---|---|---|---|
| Mar. | 26 | 13 | 16 | 52·60 |
| May | 6 | | | 52·53 |
| | 7 | | | 52·73 |
| | 12 | | | 52·58 |
| | 21 | | | 52·65 |
| | 25 | | | 52·61 |

| α Virginis. | | | | |
|---|---|---|---|---|
| | | h. | m. | s. |
| May | 27 | 13 | 16 | 52·74 |
| | 28 | | | 52·75 |
| | 30 | | | 52·59 |
| | 31 | | | 52·55 |
| June | 2 | | | 52·65 |
| | 6 | | | 52·58 |
| | 7 | | | 52·61 |
| | 8 | | | 52·68 |
| | 11 | | | 52·66 |
| | 24 | | | 52·69 |
| | 28 | | | 52·58 |
| July | 12 | | | 52·60 |
| | 15 | | | 52·59 |
| | 16 | | | 52·60 |
| | 21 | | | 52·60 |
| | 22 | | | 52·58 |
| | 23 | | | 52·61 |
| | 30 | | | 52·58 |
| Aug. | 4 | | | 52·65 |
| | 11 | | | 52·63 |
| Oct. | 31 | | | 52·69 |
| Nov. | 13 | | | 52·56 |
| | 20 | | | 52·57 |

| η Bootis. | | | | |
|---|---|---|---|---|
| May | 7 | 13 | 47 | 9·72 |
| | 21 | | | 9·70 |
| | 23 | | | 9·75 |
| | 27 | | | 9·67 |
| | 28 | | | 9·62 |
| | 30 | | | 9·62 |
| June | 1 | | | 9·81 |
| | 2 | | | 9·67 |
| | 3 | | | 9·70 |
| | 6 | | | 9·71 |
| | 14 | | | 9·69 |
| | 17 | | | 9·65 |
| | 22 | | | 9·71 |
| July | 6 | | | 9·72 |
| | 14 | | | 9·67 |
| | 15 | | | 9·68 |
| | 28 | | | 9·69 |
| Aug. | 11 | | | 9·68 |
| Nov. | 13 | | | 9·73 |
| Dec. | 26 | | | 9·69 |

| κ Virginis. | | | | |
|---|---|---|---|---|
| Dec. | 26 | 14 | 4 | 28·66 |

| 3 Ursæ Minoris. | | | | |
|---|---|---|---|---|
| May | 22 | 14 | 5 | 45·14 |
| | 28 | | | 45·02 |

| 3 Ursæ Minoris. | | | | |
|---|---|---|---|---|
| | | h. | m. | s. |
| June | 1 | 14 | 5 | 45·70 |
| | 2 | | | 45·08 |
| | 6 | | | 45·11 |

| 15 Bootis. | | | | |
|---|---|---|---|---|
| May | 12 | 14 | 7 | 6·78 |

| α Bootis. | | | | |
|---|---|---|---|---|
| Jan. | 5 | 14 | 8 | 27·40 |
| May | 7 | | | 27·31 |
| | 12 | | | 27·41 |
| | 21 | | | 27·45 |
| | 22 | | | 27·48 |
| | 28 | | | 27·32 |
| June | 1 | | | 27·25 |
| | 7 | | | 27·50 |
| | 11 | | | 27·27 |
| | 13 | | | 27·48 |
| | 14 | | | 27·43 |
| | 18 | | | 27·36 |
| | 22 | | | 27·34 |
| July | 13 | | | 27·41 |
| | 15 | | | 27·35 |
| | 16 | | | 27·38 |
| | 19 | | | 27·38 |
| | 22 | | | 27·38 |
| | 23 | | | 27·41 |
| | 27 | | | 27·35 |
| Aug. | 2 | | | 27·34 |
| | 11 | | | 27·47 |
| | 27 | | | 27·37 |
| Sept. | 6 | | | 27·33 |
| | 12 | | | 27·38 |
| | 21 | | | 27·36 |
| | 30 | | | 27·37 |
| Oct. | 4 | | | 27·39 |
| | 6 | | | 27·40 |
| | 7 | | | 27·32 |
| | 8 | | | 27·38 |
| | 11 | | | 27·40 |
| | 12 | | | 27·32 |
| | 13 | | | 27·40 |
| | 14 | | | 27·40 |
| | 18 | | | 27·40 |
| | 20 | | | 27·35 |
| | 22 | | | 27·40 |
| | 24 | | | 27·40 |
| Nov. | 3 | | | 27·30 |
| | 13 | | | 27·37 |
| | 20 | | | 27·35 |
| | 28 | | | 27·34 |
| Dec. | 26 | | | 27·41 |

**A.S.C. 1621.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 27 | 14 | 8 | 38·60 |
| | 30 | | | 38·52 |
| | 31 | | | 38·48 |

**λ Virginis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 5 | 14 | 10 | 34·23 |
| May | 21 | | | 34·04 |
| | 22 | | | 34·24 |
| July | 16 | | | 34·28 |

**103 Virginis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 13 | 50·36 |
| | 21 | | | 50·50 |
| | 22 | | | 50·50 |

**A.S.C. 1632.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 14 | 15 | 36·73 |
| | 27 | | | 36·79 |
| | 28 | | | 36·78 |

**A.S.C. 1636**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 16 | 19·88 |
| | 21 | | | 19·75 |
| | 22 | | | 19·86 |

**σ Bootis**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 27 | 47·96 |
| | 22 | | | 48·05 |
| | 27 | | | 48·09 |

**31 Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 33 | 53·36 |
| | 21 | | | 53·36 |
| | 27 | | | 53·45 |

**32 Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 28 | 14 | 34 | 8·28 |
| | 30 | | | 8·27 |
| June | 1 | | | 8·36 |

**34 Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 36 | 28·73 |
| | 21 | | | 28·65 |
| | 27 | | | 28·92 |

**35 Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 28 | 14 | 37 | 52·26 |
| June | 1 | | | 52·31 |
| | 2 | | | 52·29 |

**ε Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 5 | 14 | 38 | 5·22 |
| May | 21 | | | 4·95 |
| | 22 | | | 5·12 |
| June | 3 | | | 5·28 |
| | 8 | | | 5·26 |
| | 9 | | | 5·23 |
| | 11 | | | 5·18 |
| | 17 | | | 5·31 |
| | 27 | | | 5·27 |
| July | 13 | | | 5·22 |
| | 15 | | | 5·30 |
| | 16 | | | 5·28 |
| | 19 | | | 5·24 |
| | 29 | | | 5·15 |
| Aug. | 2 | | | 5·16 |
| | 5 | | | 5·24 |
| | 27 | | | 5·13 |
| Nov. | 20 | | | 5·27 |
| | 22 | | | 5·14 |
| | 28 | | | 5·27 |

**109 Virginis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 38 | 15·88 |
| | 27 | | | 15·99 |
| | 30 | | | 15·93 |

**$\alpha^2$ Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 25 | 14 | 42 | 8·89 |
| May | 23 | | | 8·94 |
| | 27 | | | 8·89 |
| June | 1 | | | 8·93 |
| | 3 | | | 8·98 |
| | 7 | | | 8·79 |
| | 8 | | | 8·88 |
| | 11 | | | 8·98 |
| July | 13 | | | 8·91 |
| | 15 | | | 8·81 |
| | 16 | | | 8·84 |

**ξ Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 44 | 6·13 |
| | 21 | | | 6·22 |
| | 27 | | | 6·25 |

**16 Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 48 | 56·38 |
| | 22 | | | 56·36 |
| | 23 | | | 56·51 |

**β Ursæ Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 5 | 14 | 51 | 14·16 |
| May | 21 | | | 14·18 |
| | 27 | | | 14·47 |
| | 28 | | | 14·22 |
| | 30 | | | 14·02 |

**20 Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 25 | 14 | 54 | 50·29 |

**44 Bootis, following.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 14 | 58 | 34·96 |
| | 21 | | | 35·01 |
| | 22 | | | 35·14 |

**Groombridge 2213.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 15 | 8 | 18·68 |
| | 27 | | | 19·60 |
| | 28 | | | 19·37 |
| | 30 | | | 18·72 |
| June | 1 | | | 19·05 |

**β Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 25 | 15 | 8 | 30·80 |
| May | 12 | | | 30·74 |
| | 21 | | | 30·64 |
| | 22 | | | 30·75 |
| June | 3 | | | 30·64 |
| | 27 | | | 30·71 |
| | 29 | | | 30·62 |
| July | 1 | | | 30·67 |
| | 6 | | | 30·73 |
| | 16 | | | 30·68 |

**9 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 18 | 27·93 |
| | 21 | | | 27·74 |

**μ Bootis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 15 | 18 | 31·28 |
| | 27 | | | 31·40 |
| | 28 | | | 31·35 |

**$\gamma^2$ Ursæ Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 30 | 15 | 21 | 1·68 |
| | 31 | | | 1·62 |
| June | 1 | | | 1·67 |
| | 2 | | | 1·57 |
| | 3 | | | 1·62 |

**ι Draconis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 21 | 15 | 21 | 25·58 |
| | 22 | | | 25·71 |

**θ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 26 | 33·59 |
| | 21 | | | 33·40 |
| | 27 | | | 33·65 |

**δ Serpentis, following.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 28 | 15 | 27 | 15·42 |
| June | 1 | | | 15·43 |
| | 2 | | | 15·47 |

**α Coronæ Borealis**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 15 | 27 | 59·98 |
| Apr. | 25 | | | 59·93 |
| | 26 | | | 59·97 |
| June | 6 | | | 59·91 |
| | 15 | | | 59·98 |
| | 18 | | | 60·00 |
| | 22 | | | 59·98 |
| | 23 | | | 59·89 |
| | 27 | | | 59·92 |
| | 29 | | | 59·96 |
| | 30 | | | 60·02 |
| July | 5 | | | 59·95 |
| | 6 | | | 59·96 |
| | 13 | | | 59·97 |
| | 14 | | | 59·97 |
| | 16 | | | 60·06 |
| | 21 | | | 59·95 |
| | 26 | | | 59·99 |
| | 27 | | | 60·02 |
| Aug. | 1 | | | 59·96 |
| | 2 | | | 60·07 |
| | 5 | | | 60·03 |
| Sept. | 9 | | | 59·96 |
| | 29 | | | 59·98 |
| | 30 | | | 60·00 |
| Oct. | 4 | | | 60·07 |
| | 7 | | | 60·07 |
| | 11 | | | 59·99 |
| | 12 | | | 60·06 |
| | 15 | | | 59·99 |

**α Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 1 | 15 | 27 | 59·98 |
| | 8 | | | 59·98 |
| Dec. | 27 | | | 60·01 |

**16 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 28 | 54·26 |
| | 21 | | | 54·16 |
| | 27 | | | 54·30 |

**μ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 28 | 15 | 29 | 27·06 |
| | 30 | | | 27·04 |
| | 31 | | | 27·04 |

**κ Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 25 | 15 | 32 | 51·21 |
| | 26 | | | 51·29 |

**χ Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 34 | 21·63 |
| | 27 | | | 21·57 |
| | 28 | | | 21·45 |

**ι Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 30 | 15 | 34 | 30·46 |
| | 31 | | | 30·48 |
| June | 1 | | | 30·55 |

**22 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 3 | 15 | 34 | 48·22 |
| | 6 | | | 48·27 |
| | 7 | | | 48·28 |

**ψ Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 27 | 15 | 36 | 5·46 |
| | 28 | | | 5·46 |
| | 30 | | | 5·52 |

**γ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 31 | 15 | 36 | 6·51 |
| June | 1 | | | 6·56 |
| | 2 | | | 6·56 |

**α Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 15 | 36 | 29·35 |
| Apr. | 26 | | | 29·45 |
| May | 23 | | | 29·41 |
| June | 15 | | | 29·35 |
| | 22 | | | 29·32 |
| July | 5 | | | 29·36 |
| | 6 | | | 29·33 |
| | 14 | | | 29·34 |
| | 29 | | | 29·30 |
| | 30 | | | 29·38 |
| Aug. | 1 | | | 29·41 |
| | 2 | | | 29·47 |
| | 5 | | | 29·39 |
| | 22 | | | 29·29 |
| Sept. | 9 | | | 29·38 |
| Dec. | 27 | | | 29·31 |

**26 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 3 | 15 | 37 | 31·65 |
| | 6 | | | 31·60 |
| | 7 | | | 31·71 |

**25 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 37 | 55·73 |
| | 27 | | | 55·72 |
| | 30 | | | 55·66 |

**λ Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 31 | 15 | 38 | 46·77 |
| June | 1 | | | 46·76 |
| | 2 | | | 46·81 |

**β Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 21 | 15 | 38 | 53·72 |
| | 23 | | | 53·96 |
| | 28 | | | 53·88 |

**ω Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 42 | 19·26 |
| | 23 | | | 19·42 |

**ι Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 27 | 15 | 42 | 56·69 |
| | 28 | | | 56·66 |
| | 30 | | | 56·77 |

**δ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 7 | 15 | 42 | 58·24 |
| | 8 | | | 58·35 |
| | 22 | | | 58·17 |

**36 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 31 | 15 | 43 | 2·18 |
| June | 1 | | | 2·32 |
| | 2 | | | 2·25 |

**ρ Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 23 | 15 | 44 | 19·74 |
| June | 3 | | | 19·65 |
| | 6 | | | 19·58 |

**ϰ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 15 | 45 | 16·69 |
| | 27 | | | 16·90 |
| | 28 | | | 16·92 |

**π Scorpii.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 25 | 15 | 49 | 18·37 |
| | 26 | | | 18·28 |

**γ Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 49 | 9·53 |
| | 25 | | | 9·49 |
| | 27 | | | 9·47 |

**ζ Ursæ Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 15 | 49 | 50·44 |
| May | 30 | | | 50·32 |
| | 31 | | | 50·45 |
| June | 1 | | | 50·53 |
| | 2 | | | 50·01 |

**50 Libræ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 52 | 16·21 |
| | 27 | | | 16·31 |
| | 28 | | | 16·27 |

**3 Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 15 | 53 | 0·81 |
| June | 3 | | | 0·81 |
| | 6 | | | 0·67 |

**5 Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 23 | 15 | 54 | 8·53 |
| | 28 | | | 8·47 |
| | 31 | | | 8·55 |

**π Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 55 | 29·61 |
| | 25 | | | 29·63 |
| | 27 | | | 29·67 |

**43 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 28 | 15 | 55 | 57·18 |
| | 30 | | | 57·27 |
| | 31 | | | 57·23 |

**υ Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 15 | 57 | 52·64 |
| | 25 | | | 52·66 |
| | 27 | | | 52·78 |

**$\beta^1$ Scorpii.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 1 | 15 | 56 | 15·57 |
| | 28 | | | 15·53 |
| | 29 | | | 15·55 |

**47 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 0 | 51·09 |
| | 23 | | | 51·17 |

**$\varkappa^1$ Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 25 | 16 | 0 | 56·65 |
| | 27 | | | 56·97 |
| | 28 | | | 56·89 |
| | 30 | | | 56·88 |

**9 Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 5 | 26·64 |
| | 25 | | | 26·62 |
| | 27 | | | 26·68 |

**δ Ophiuchi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 1 | 16 | 6 | 4·29 |
| | 28 | | | 4·16 |
| | 29 | | | 4·18 |
| July | 4 | | | 4·16 |
| | 12 | | | 4·32 |

**δ Ophiuchi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 29 | 16 | 6 | 4·29 |
| Aug. | 1 | | | 4·25 |
| Sept. | 11 | | | 4·39 |

**18 Scorpii.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 30 | 16 | 7 | 2·38 |
| | 31 | | | 2·17 |
| June | 2 | | | 2·46 |

**A.S.C. 1865.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 8 | 37·03 |
| | 25 | | | 36·94 |
| | 27 | | | 37·04 |

**17 Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 23 | 16 | 9 | 32·81 |
| | 28 | | | 32·77 |
| | 30 | | | 32·40 |

**ε Ophiuchi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 27 | 16 | 9 | 58·08 |
| | 31 | | | 57·87 |
| June | 1 | | | 57·93 |

**σ Scorpii.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 26 | 16 | 11 | 35·70 |

**γ Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 14 | 57·16 |
| | 25 | | | 57·15 |
| | 31 | | | 57·06 |

**τ Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 1 | 16 | 14 | 59·71 |
| | 2 | | | 59·58 |
| | 3 | | | 59·66 |

**19 Ursæ Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 6 | 16 | 15 | 25·36 |
| | 12 | | | 25·12 |
| | 13 | | | 25·14 |
| | 14 | | | 24·95 |
| | 15 | | | 24·99 |

**ξ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 30 | 16 | 15 | 56·38 |
| June | 27 | | | 56·61 |
| | 28 | | | 56·45 |

**$\nu^1$ Coronæ Borealis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 29 | 16 | 16 | 24·60 |
| | 30 | | | 24·59 |
| July | 4 | | | 24·62 |

**51 Serpentis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 30 | 16 | 18 | 7·48 |
| | 31 | | | 7·53 |
| June | 1 | | | 7·63 |

**υ Ophiuchi.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 12 | 16 | 19 | 15·70 |
| | 27 | | | 15·68 |
| June | 2 | | | 15·69 |

**α Scorpii.**

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 26 | 16 | 19 | 43·79 |
| May | 23 | | | 43·74 |
| June | 29 | | | 43·88 |
| July | 6 | | | 43·70 |
| | 12 | | | 43·73 |
| Sept. | 11 | | | 43·70 |

**25 Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 31 | 16 | 19 | 46·41 |
| June | 1 | | | 46·73 |
| | 3 | | | 46·58 |

**η Ursæ Minoris.**

| | | h. | m. | s. |
|---|---|---|---|---|
| June | 30 | 16 | 22 | 12·06 |
| July | 16 | | | 12·29 |
| | 23 | | | 11·80 |
| | 28 | | | 12·05 |
| | 29 | | | 12·03 |

**β Herculis.**

| | | h. | m. | s. |
|---|---|---|---|---|
| May | 31 | 16 | 23 | 25·63 |
| June | 1 | | | 25·81 |
| | 2 | | | 25·77 |

| | h. | m. | s. |
|---|---|---|---|
| **30 Herculis.** | | | |
| June 3 | 16 | 23 | 26·84 |
| 27 | | | 27·31 |
| July 15 | | | 27·31 |
| **28 Herculis.** | | | |
| June 29 | 16 | 24 | 49·30 |
| July 6 | | | 49·38 |
| 12 | | | 49·46 |
| **29 Herculis.** | | | |
| May 31 | 16 | 25 | 12·79 |
| June 1 | | | 12·98 |
| 2 | | | 12·86 |
| **12 Ophiuchi.** | | | |
| June 2 | 16 | 28 | 3·85 |
| 29 | | | 3·80 |
| July 6 | | | 3·64 |
| **15 Draconis.** | | | |
| July 15 | 16 | 28 | 19·19 |
| 16 | | | 19·34 |
| 21 | | | 19·27 |
| 22 | | | 19·30 |
| 23 | | | 18·99 |
| **ζ Ophiuchi.** | | | |
| May 30 | 16 | 28 | 27·77 |
| 31 | | | 27·80 |
| June 1 | | | 27·84 |
| **σ Herculis.** | | | |
| June 3 | 16 | 29 | 0·63 |
| 27 | | | 0·84 |
| 30 | | | 0·65 |
| **33 Herculis.** | | | |
| June 28 | 16 | 29 | 11·27 |
| July 12 | | | 11·45 |
| 14 | | | 11·25 |
| **16 Ophiuchi.** | | | |
| June 28 | 16 | 37 | 28·16 |
| 29 | | | 28·18 |
| July 6 | | | 28·25 |

| | h. | m. | s. |
|---|---|---|---|
| **η Herculis.** | | | |
| June 27 | 16 | 37 | 29·01 |
| July 16 | | | 29·14 |
| 21 | | | 28·84 |
| **43 Herculis.** | | | |
| July 12 | 16 | 38 | 15·09 |
| 14 | | | 14·73 |
| 15 | | | 14·87 |
| **18 Draconis.** | | | |
| July 21 | 16 | 39 | 50·39 |
| 22 | | | 50·49 |
| **45 Herculis.** | | | |
| June 28 | 16 | 39 | 59·90 |
| 29 | | | 59·93 |
| July 6 | | | 59·90 |
| **21 Ophiuchi.** | | | |
| June 22 | 16 | 43 | 24·51 |
| 28 | | | 24·32 |
| 29 | | | 24·34 |
| **50 Herculis.** | | | |
| July 15 | 16 | 44 | 29·05 |
| 16 | | | 29·29 |
| 21 | | | 29·06 |
| **52 Herculis.** | | | |
| June 27 | 16 | 44 | 37·08 |
| July 22 | | | 36·85 |
| 23 | | | 36·75 |
| **49 Herculis.** | | | |
| July 6 | 16 | 44 | 53·40 |
| 9 | | | 53·43 |
| 12 | | | 53·51 |
| **51 Herculis.** | | | |
| June 28 | 16 | 45 | 12·31 |
| 29 | | | 12·33 |
| July 14 | | | 12·24 |

| | h. | m. | s. |
|---|---|---|---|
| **23 Ophiuchi.** | | | |
| June 22 | 16 | 46 | 9·38 |
| 23 | | | 9·25 |
| July 15 | | | 9·17 |
| **ι Ophiuchi.** | | | |
| July 6 | 16 | 46 | 32·12 |
| 9 | | | 32·12 |
| 12 | | | 32·11 |
| **53 Herculis.** | | | |
| June 27 | 16 | 46 | 58·80 |
| 28 | | | 58·62 |
| 29 | | | 58·71 |
| **A.S.C. 1942.** | | | |
| July 14 | 16 | 50 | 32·58 |
| 15 | | | 32·75 |
| **ε Herculis.** | | | |
| June 22 | 16 | 54 | 14·80 |
| 27 | | | 14·88 |
| 28 | | | 14·64 |
| **19 Draconis.** | | | |
| June 30 | 16 | 55 | 10·76 |
| July 9 | | | 10·59 |
| 12 | | | 10·71 |
| 14 | | | 10·27 |
| 15 | | | 10·50 |
| **A.S.C. 1951.** | | | |
| June 28 | 16 | 55 | 48·30 |
| 29 | | | 48·45 |
| July 6 | | | 48·35 |
| **60 Herculis.** | | | |
| June 22 | 16 | 58 | 3·22 |
| 27 | | | 3·29 |
| 28 | | | 3·23 |
| **η Ophiuchi.** | | | |
| Aug. 14 | 17 | 1 | 19·34 |
| 15 | | | 19·49 |

| | h. | m. | s. |
|---|---|---|---|
| **ι Ursæ Minoris.** | | | |
| June 29 | 17 | 2 | 23·15 |
| 30 | | | 23·54 |
| July 1 | | | 23·59 |
| 6 | | | 23·85 |
| 9 | | | 23·02 |
| **A.S.C. 1963.** | | | |
| June 22 | 17 | 2 | 26·23 |
| 27 | | | 26·23 |
| 28 | | | 26·08 |
| **37 Ophiuchi.** | | | |
| June 22 | 17 | 5 | 1·01 |
| 27 | | | 1·15 |
| 28 | | | 1·09 |
| **Groombridge 2427.** | | | |
| July 21 | 17 | 6 | 41·44 |
| 22 | | | 41·48 |
| 23 | | | 41·18 |
| 27 | | | 41·36 |
| 28 | | | 41·43 |
| **α Herculis.** | | | |
| Feb. 4 | 17 | 7 | 26·62 |
| May 25 | | | 26·65 |
| June 28 | | | 26·61 |
| July 1 | | | 26·75 |
| 4 | | | 26·68 |
| 9 | | | 26·65 |
| Aug. 4 | | | 26·72 |
| 13 | | | 26·73 |
| 14 | | | 26·68 |
| 15 | | | 26·76 |
| 22 | | | 26·87 |
| Sept. 12 | | | 26·69 |
| **ζ Draconis.** | | | |
| July 29 | 17 | 8 | 20·50 |
| 30 | | | 20·68 |
| Aug. 1 | | | 20·79 |
| 3 | | | 20·55 |
| 9 | | | 20·74 |
| **41 Ophiuchi.** | | | |
| June 22 | 17 | 8 | 30·15 |
| 27 | | | 30·15 |
| 29 | | | 30·14 |

| | h. | m. | s. |
|---|---|---|---|
| **δ Herculis.** | | | |
| July 6 | 17 | 8 | 32·69 |
| 12 | | | 32·72 |
| 13 | | | 32·64 |
| **π Herculis.** | | | |
| June 28 | 17 | 9 | 32·65 |
| July 4 | | | 32·67 |
| 9 | | | 32·75 |
| **69 Herculis.** | | | |
| June 22 | 17 | 12 | 13·54 |
| 27 | | | 13·51 |
| 28 | | | 13·37 |
| **θ Ophiuchi.** | | | |
| Aug. 14 | 17 | 12 | 18·68 |
| 15 | | | 18·95 |
| **73 Herculis.** | | | |
| July 4 | 17 | 17 | 30·09 |
| 6 | | | 30·10 |
| 9 | | | 30·06 |
| **ξ Herculis.** | | | |
| July 16 | 17 | 18 | 14·35 |
| 21 | | | 13·94 |
| 22 | | | 14·09 |
| **A.S.C. 1998.** | | | |
| June 27 | 17 | 18 | 15·04 |
| 29 | | | 15·07 |
| July 1 | | | 14·88 |
| **σ Ophiuchi.** | | | |
| June 28 | 17 | 18 | 40·44 |
| July 12 | | | 40·85 |
| 13 | | | 40·71 |
| **λ Herculis.** | | | |
| June 22 | 17 | 24 | 21·27 |
| 27 | | | 21·27 |
| 28 | | | 21·28 |

| 78 Herculis. | | | |
|---|---|---|---|
| | h. | m. | s. |
| June 29 | 17 | 25 | 37·47 |
| July 1 | | | 37·41 |
| 6 | | | 37·47 |

| 54 Ophiuchi. | | | |
|---|---|---|---|
| June 22 | 17 | 27 | 5·68 |
| 27 | | | 5·73 |
| 28 | | | 5·63 |

| 53 Ophiuchi. | | | |
|---|---|---|---|
| June 39 | 17 | 27 | 6·77 |
| July 6 | | | 6·77 |
| 12 | | | 6·97 |

| $\alpha$ Ophiuchi. | | | |
|---|---|---|---|
| Feb. 4 | 17 | 27 | 36·18 |
| Mar. 3 | | | 36·13 |
| 4 | | | 36·14 |
| June 30 | | | 35·98 |
| July 1 | | | 36·07 |
| 9 | | | 36·09 |
| 21 | | | 36·18 |
| 22 | | | 36·07 |
| 23 | | | 36·14 |
| 26 | | | 36·05 |
| 29 | | | 36·10 |
| 30 | | | 36·09 |
| Aug. 1 | | | 36·14 |
| 3 | | | 36·21 |
| 6 | | | 36·25 |
| 11 | | | 36·12 |
| 13 | | | 36·12 |
| 14 | | | 36·15 |
| 15 | | | 36·25 |
| Sept. 9 | | | 36·16 |
| 12 | | | 36.17 |
| 21 | | | 36·17 |
| Nov. 4 | | | 36·23 |
| 8 | | | 36·21 |
| 14 | | | 36·22 |
| 21 | | | 36·11 |
| 30 | | | 36·20 |
| Dec. 3 | | | 36·14 |

| $\nu^1$ Draconis. | | | |
|---|---|---|---|
| July 4 | 17 | 29 | 4·02 |
| 13 | | | 4·23 |
| 14 | | | 4·31 |

| $\nu^2$ Draconis. | | | |
|---|---|---|---|
| | h. | m. | s. |
| July 6 | 17 | 29 | 10·08 |
| 12 | | | 9·63 |
| 15 | | | 9·39 |

| $\mu$ Ophiuchi. | | | |
|---|---|---|---|
| June 22 | 17 | 29 | 15·56 |
| 29 | | | 15·64 |
| July 1 | | | 15·48 |

| A.S.C. 2034. | | | |
|---|---|---|---|
| June 22 | 17 | 34 | 53·45 |
| 27 | | | 53·29 |
| 29 | | | 53·42 |

| $\beta$ Ophiuchi. | | | |
|---|---|---|---|
| June 30 | 17 | 35 | 40·18 |
| July 1 | | | 40·07 |
| 6 | | | 40·20 |

| 84 Herculis. | | | |
|---|---|---|---|
| June 27 | 17 | 36 | 52·66 |
| 29 | | | 52·81 |
| July 7 | | | 52·64 |

| 3 Sagittarii. | | | |
|---|---|---|---|
| June 22 | 17 | 37 | 37·19 |

| $\omega$ Draconis. | | | |
|---|---|---|---|
| July 9 | 17 | 37 | 53·09 |
| 12 | | | 53·33 |
| 13 | | | 53·13 |
| 14 | | | 53·39 |
| 15 | | | 53·11 |

| $\gamma$ Ophiuchi. | | | |
|---|---|---|---|
| June 29 | 17 | 39 | 58·34 |
| 30 | | | 58·33 |
| July 6 | | | 58·37 |

| A.S.C. 2051. | | | |
|---|---|---|---|
| June 29 | 17 | 48 | 27·33 |
| 30 | | | 27·27 |
| July 1 | | | 27·20 |

| 89 Herculis. | | | |
|---|---|---|---|
| | h. | m. | s. |
| June 27 | 17 | 49 | 2·91 |
| July 6 | | | 2·99 |
| 7 | | | 2·73 |

| 4 Sagittarii. | | | |
|---|---|---|---|
| June 22 | 17 | 50 | 8·92 |

| $\xi$ Draconis. | | | |
|---|---|---|---|
| July 9 | 17 | 50 | 48·07 |
| 12 | | | 48·27 |
| 13 | | | 48·07 |

| $\theta$ Herculis. | | | |
|---|---|---|---|
| June 30 | 17 | 50 | 50·22 |
| July 1 | | | 50·16 |
| 7 | | | 50·04 |

| $\zeta$ Serpentis. | | | |
|---|---|---|---|
| June 22 | 17 | 52 | 8·31 |
| 29 | | | 8·39 |
| July 6 | | | 8·41 |

| 67 Ophiuchi. | | | |
|---|---|---|---|
| June 27 | 17 | 52 | 43·87 |
| July 1 | | | 43·98 |
| 8 | | | 43·85 |

| 68 Ophiuchi. | | | |
|---|---|---|---|
| June 29 | 17 | 53 | 44·41 |
| July 9 | | | 44·49 |
| 13 | | | 44·55 |

| $\tau$ Ophiuchi. | | | |
|---|---|---|---|
| June 22 | 17 | 54 | 28·80 |
| 27 | | | 28·74 |
| July 6 | | | 28·80 |

| 95 Herculis, preceding. | | | |
|---|---|---|---|
| June 30 | 17 | 54 | 48·00 |
| July 14 | | | 47·96 |
| 15 | | | 47·96 |

| 96 Herculis. | | | |
|---|---|---|---|
| | h. | m. | s. |
| July 1 | 17 | 55 | 37·78 |
| 16 | | | 38·30 |
| 21 | | | 37·98 |

| $\gamma^2$ Sagittarii. | | | |
|---|---|---|---|
| Aug. 15 | 17 | 55 | 39·64 |

| 97 Herculis. | | | |
|---|---|---|---|
| June 23 | 17 | 55 | 53·94 |
| 29 | | | 54·07 |
| July 9 | | | 54·03 |

| A.S.C. 2084. | | | |
|---|---|---|---|
| July 22 | 17 | 56 | 31·77 |
| 23 | | | 31·88 |

| 70 Ophiuchi, preceding. | | | |
|---|---|---|---|
| June 22 | 17 | 57 | 28·25 |
| 23 | | | 28·30 |
| 27 | | | 28·22 |

| 98 Herculis. | | | |
|---|---|---|---|
| June 23 | 17 | 59 | 22·79 |
| 28 | | | 22·77 |
| 30 | | | 22·67 |

| 71 Ophiuchi. | | | |
|---|---|---|---|
| June 22 | 17 | 59 | 45·16 |
| 27 | | | 45·15 |
| July 6 | | | 45·10 |

| 72 Ophiuchi. | | | |
|---|---|---|---|
| July 1 | 17 | 59 | 51·62 |
| 8 | | | 51·53 |
| 9 | | | 51·61 |

| 101 Herculis. | | | |
|---|---|---|---|
| June 22 | 18 | 2 | 4·19 |
| 23 | | | 4·19 |
| 27 | | | 4·19 |

| $\mu^1$ Sagittarii. | | | |
|---|---|---|---|
| | h. | m. | s. |
| Aug. 15 | 18 | 4 | 18·67 |

| 104 Herculis. | | | |
|---|---|---|---|
| June 22 | 18 | 5 | 57·58 |
| 23 | | | 57·63 |
| 27 | | | 57·46 |

| 40 Draconis. | | | |
|---|---|---|---|
| July 21 | 18 | 11 | 51·09 |
| 22 | | | 51·07 |
| 23 | | | 50·93 |
| 27 | | | 50·87 |
| 28 | | | 50·92 |

| 36 Draconis. | | | |
|---|---|---|---|
| June 30 | 18 | 12 | 59·64 |
| July 8 | | | 59·48 |
| 9 | | | 59·49 |
| 25 | | | 59·32 |
| 29 | | | 59·40 |

| 106 Herculis. | | | |
|---|---|---|---|
| June 23 | 18 | 13 | 36·94 |
| 27 | | | 36·89 |
| 29 | | | 37·11 |

| $\kappa$ Lyræ. | | | |
|---|---|---|---|
| July 1 | 18 | 14 | 19·77 |
| 15 | | | 19·60 |
| 16 | | | 19·87 |

| 107 Herculis. | | | |
|---|---|---|---|
| June 22 | 18 | 14 | 51·40 |
| July 6 | | | 51·52 |
| 14 | | | 51·40 |

| 109 Herculis. | | | |
|---|---|---|---|
| June 22 | 18 | 16 | 57·96 |
| 27 | | | 58·05 |
| 29 | | | 58·15 |

| 59 Serpentis. | | | |
|---|---|---|---|
| June 22 | 18 | 19 | 7·65 |
| July 9 | | | 7·59 |
| 15 | | | 7·63 |

### δ Ursæ Minoris.

| | h. | m. | s. |
|---|---|---|---|
| Jan. 2 | 18 | 23 | 18·50 |
| 6 | | | 17·91 |
| 11 | | | 17·71 |
| 24 | | | 17·50 |
| June 23 | | | 17·98 |
| 29 | | | 18·05 |
| 30 | | | 17·87 |
| July 4 | | | 18·00 |
| 7 | | | 17·91 |
| 15 | | | 17·75 |
| 16 | | | 18·34 |
| 21 | | | 18·61 |
| 22 | | | 18·50 |
| 23 | | | 17·48 |
| 26 | | | 20·00 |
| 29 | | | 18·23 |
| 30 | | | 17·97 |
| Aug. 1 | | | 17·98 |
| 2 | | | 17·93 |
| 3 | | | 16·81 |
| 4 | | | 17·99 |
| 5 | | | 17·91 |
| 6 | | | 17·93 |
| 9 | | | 17·96 |
| 13 | | | 18·30 |
| 15 | | | 17·92 |
| 16 | | | 17·82 |
| 17 | | | 18·82 |
| 20 | | | 17·91 |
| 22 | | | 17·82 |
| 24 | | | 18·03 |
| 27 | | | 18·05 |
| 30 | | | 17·36 |
| Sept. 9 | | | 18·01 |
| 12 | | | 18·67 |
| 14 | | | 17·49 |
| 17 | | | 17·63 |
| 19 | | | 17·93 |
| 20 | | | 17·96 |
| 29 | | | 17·86 |
| 30 | | | 17·87 |
| Oct. 4 | | | 18·26 |
| 6 | | | 17·74 |
| 7 | | | 17·95 |
| 11 | | | 16·90 |
| 15 | | | 18·00 |
| 20 | | | 17·50 |
| 22 | | | 17·88 |
| Nov. 1 | | | 17·86 |
| 3 | | | 17·94 |
| 4 | | | 17·22 |
| 14 | | | 16·89 |
| 15 | | | 17·97 |
| 18 | | | 16·41 |
| 23 | | | 16·50 |

### δ Ursæ Minoris.

| | h. | m. | s. |
|---|---|---|---|
| Nov. 30 | 18 | 23 | 16·20 |
| Dec. 17 | | | 17·91 |
| 23 | | | 17·85 |
| 24 | | | 18·02 |
| 28 | | | 18·18 |
| 30 | | | 17·25 |

### δ Ursæ Minoris S.P.

| | h. | m. | s. |
|---|---|---|---|
| Jan. 15 | 6 | 23 | 17·48 |
| 17 | | | 17·88 |
| 20 | | | 17·47 |
| 24 | | | 17·60 |
| 25 | | | 18·08 |
| 27 | | | 17·51 |
| 29 | | | 17·16 |
| 31 | | | 17·96 |
| Feb. 1 | | | 17·86 |
| 2 | | | 18·42 |
| 3 | | | 18·11 |
| 4 | | | 17·92 |
| 11 | | | 17·54 |
| 15 | | | 17·94 |
| 16 | | | 17·11 |
| 21 | | | 17·74 |
| 25 | | | 17·95 |
| 26 | | | 17·98 |
| Mar. 1 | | | 16·82 |
| 2 | | | 18·05 |
| 4 | | | 17·79 |
| 8 | | | 18·06 |
| 9 | | | 18·06 |
| 10 | | | 17·92 |
| 18 | | | 17·86 |
| 19 | | | 17·80 |
| 21 | | | 17·98 |
| 26 | | | 17·74 |
| Apr. 2 | | | 17·92 |
| 8 | | | 18·08 |
| 9 | | | 17·97 |
| 11 | | | 16·95 |
| 12 | | | 17·81 |
| 16 | | | 18·09 |
| 17 | | | 18·02 |
| 20 | | | 16·80 |
| 26 | | | 18·00 |
| 27 | | | 17·92 |
| 28 | | | 18·22 |
| 29 | | | 20·51 |
| Aug. 30 | | | 17·68 |
| Dec. 18 | | | 18·02 |

### 61 Serpentis.

| | h. | m. | s. |
|---|---|---|---|
| July 4 | 18 | 23 | 47·53 |
| 6 | | | 47·61 |
| 14 | | | 47·56 |

### χ Draconis.

| | h. | m. | s. |
|---|---|---|---|
| July 8 | 18 | 23 | 54·07 |
| 22 | | | 54·28 |
| 23 | | | 54·16 |
| 27 | | | 54·29 |
| 28 | | | 54·31 |

### A.S.C. 2146.

| | h. | m. | s. |
|---|---|---|---|
| June 22 | 18 | 26 | 11·85 |
| July 16 | | | 12·06 |
| 21 | | | 11·80 |

### 1 Aquilæ.

| | h. | m. | s. |
|---|---|---|---|
| July 6 | 18 | 26 | 36·63 |
| 14 | | | 36·54 |
| 15 | | | 36·60 |

### α Lyræ.

| | h. | m. | s. |
|---|---|---|---|
| Jan. 11 | 18 | 31 | 35·49 |
| 24 | | | 35·39 |
| June 23 | | | 35·41 |
| 28 | | | 35·36 |
| 30 | | | 35·33 |
| July 1 | | | 35·42 |
| 4 | | | 35·42 |
| 7 | | | 35·38 |
| 8 | | | 35·36 |
| 9 | | | 35·35 |
| 25 | | | 35·34 |
| 26 | | | 35·44 |
| 27 | | | 35·37 |
| 28 | | | 35·33 |
| Aug. 3 | | | 35·22 |
| 4 | | | 35·38 |
| 6 | | | 35·41 |
| 9 | | | 35·45 |
| 16 | | | 35·35 |
| 17 | | | 35·36 |
| Sept. 19 | | | 35·35 |
| 20 | | | 35·43 |
| 29 | | | 35·29 |
| Oct. 4 | | | 35·33 |
| 6 | | | 35·28 |
| 8 | | | 35·36 |
| 10 | | | 35·36 |
| 13 | | | 35·32 |

### α Lyræ.

| | h. | m. | s. |
|---|---|---|---|
| Oct. 22 | 18 | 31 | 35·35 |
| 29 | | | 35·28 |
| Nov. 1 | | | 35·34 |
| 3 | | | 35·36 |
| 4 | | | 35·33 |
| 8 | | | 35·33 |
| 9 | | | 35·29 |
| 14 | | | 35·33 |
| 18 | | | 35·31 |
| 21 | | | 35·39 |
| 23 | | | 35·39 |
| 29 | | | 35·60 |
| 30 | | | 35·24 |
| Dec. 3 | | | 35·42 |
| 17 | | | 35·39 |
| 23 | | | 35·38 |
| 24 | | | 35·47 |
| 27 | | | 35·39 |
| 28 | | | 35·38 |
| 30 | | | 35·24 |

### φ Sagittarii.

| | h. | m. | s. |
|---|---|---|---|
| June 22 | 18 | 35 | 47·14 |
| 23 | | | 47·01 |

### 110 Herculis.

| | h. | m. | s. |
|---|---|---|---|
| June 22 | 18 | 38 | 51·89 |
| 23 | | | 51·77 |
| 30 | | | 51·79 |

### ε Lyræ.

| | h. | m. | s. |
|---|---|---|---|
| July 1 | 18 | 39 | 6·35 |
| 6 | | | 6·52 |

### 5 Lyræ, preceding.

| | h. | m. | s. |
|---|---|---|---|
| July 23 | 18 | 39 | 8·64 |
| Aug. 11 | | | 8·67 |
| 13 | | | 8·59 |

### ζ¹ Lyræ.

| | h. | m. | s. |
|---|---|---|---|
| July 16 | 18 | 39 | 20·24 |
| 21 | | | 20·00 |
| 22 | | | 19·95 |

### 46 Draconis.

| | h. | m. | s. |
|---|---|---|---|
| July 14 | 18 | 39 | 34·59 |
| 15 | | | 34·43 |

### β Lyræ.

| | h. | m. | s. |
|---|---|---|---|
| Jan. 26 | 18 | 44 | 14·88 |
| June 30 | | | 14·86 |
| July 1 | | | 14·82 |
| 4 | | | 14·94 |
| 7 | | | 14·80 |
| 9 | | | 14·93 |
| 23 | | | 14·86 |
| 25 | | | 14·86 |
| 27 | | | 14·88 |
| 29 | | | 14·87 |
| 30 | | | 14·92 |
| Aug. 1 | | | 14·85 |
| 2 | | | 14·82 |
| 3 | | | 14·90 |
| 5 | | | 14·80 |
| 13 | | | 14·87 |
| 20 | | | 14·84 |
| 22 | | | 14·90 |
| 24 | | | 14·92 |
| 27 | | | 14·91 |
| 30 | | | 14·89 |
| 31 | | | 14·85 |
| Sept. 6 | | | 14·91 |
| 12 | | | 14·85 |
| 17 | | | 14·84 |
| 19 | | | 14·87 |
| 20 | | | 14·76 |
| 29 | | | 14·94 |
| 30 | | | 14·76 |
| Oct. 4 | | | 14·84 |
| 7 | | | 14·85 |
| 8 | | | 14·88 |
| 11 | | | 14·79 |
| 12 | | | 14·81 |
| 13 | | | 14·91 |
| 15 | | | 14·84 |
| 19 | | | 14·90 |
| 20 | | | 14·86 |
| 21 | | | 14·85 |
| 22 | | | 14·74 |
| 24 | | | 14·82 |
| 29 | | | 14·91 |
| Nov. 1 | | | 14·86 |
| 3 | | | 14·83 |
| 4 | | | 14·80 |
| 14 | | | 14·86 |
| 23 | | | 14·82 |
| 29 | | | 14·92 |
| Dec. 23 | | | 14·83 |

### σ Sagittarii.

| | h. | m. | s. |
|---|---|---|---|
| June 22 | 18 | 45 | 28·08 |
| 23 | | | 27·84 |

| 113 Herculis. | h. | m. | s. |
|---|---|---|---|
| July 22 | 18 | 48 | 4·74 |
| 23 | | | 4·66 |
| 27 | | | 4·72 |

| $\theta^1$ Serpentis. | | | |
|---|---|---|---|
| July 9 | 18 | 48 | 21·86 |
| 13 | | | 22·07 |
| 14 | | | 21·98 |

| $\theta^2$ Serpentis. | | | |
|---|---|---|---|
| July 15 | 18 | 48 | 23·43 |
| 16 | | | 23·59 |
| 21 | | | 23·29 |

| 9 Aquilæ. | | | |
|---|---|---|---|
| June 22 | 18 | 48 | 36·14 |
| 23 | | | 36·04 |
| July 7 | | | 35·98 |

| ο Draconis. | | | |
|---|---|---|---|
| Aug. 1 | 18 | 48 | 51·92 |
| 2 | | | 51·98 |
| 3 | | | 51·98 |

| $\delta^2$ Lyræ. | | | |
|---|---|---|---|
| July 6 | 18 | 48 | 58·81 |
| 25 | | | 58·87 |
| 29 | | | 58·77 |

| 12 Aquilæ. | | | |
|---|---|---|---|
| June 30 | 18 | 53 | 14·48 |
| July 6 | | | 14·57 |
| 7 | | | 14·39 |

| 48 Draconis. | | | |
|---|---|---|---|
| July 4 | 18 | 54 | 4·57 |
| 15 | | | 4·69 |
| 16 | | | 5·19 |

| 14 Aquilæ. | | | |
|---|---|---|---|
| July 9 | 18 | 54 | 35·16 |
| 13 | | | 35·35 |
| 14 | | | 35·30 |

| υ Draconis. | h. | m. | s. |
|---|---|---|---|
| July 22 | 18 | 56 | 19·07 |
| 23 | | | 18·93 |

| 15 Aquilæ. | | | |
|---|---|---|---|
| July 6 | 18 | 56 | 37·15 |
| 9 | | | 37·09 |
| 13 | | | 37·29 |

| λ Aquilæ. | | | |
|---|---|---|---|
| July 14 | 18 | 57 | 51·83 |
| 15 | | | 51·93 |
| 16 | | | 51·95 |

| ζ Aquilæ. | | | |
|---|---|---|---|
| Apr. 2 | 18 | 58 | 8·95 |
| June 23 | | | 8·97 |
| 30 | | | 9·00 |
| July 7 | | | 8·96 |
| 21 | | | 8·99 |
| Aug. 4 | | | 8·79 |
| 5 | | | 8·94 |
| 9 | | | 8·86 |
| 13 | | | 8·96 |
| 17 | | | 8·92 |
| 19 | | | 8·89 |
| 27 | | | 8·96 |
| 31 | | | 8·99 |
| Sept. 6 | | | 8·96 |
| 12 | | | 8·90 |
| 17 | | | 8·92 |
| Oct. 6 | | | 9·01 |
| 7 | | | 8·83 |
| 8 | | | 8·90 |
| 11 | | | 8·85 |
| 12 | | | 8·87 |
| 13 | | | 8·80 |
| 15 | | | 8·69 |
| 19 | | | 8·86 |
| 20 | | | 8·85 |
| 21 | | | 8·90 |
| 24 | | | 8·93 |
| 29 | | | 8·91 |
| Nov. 3 | | | 8·92 |
| 9 | | | 8·99 |

| 18 Aquilæ. | | | |
|---|---|---|---|
| July 6 | 18 | 59 | 32·46 |
| 9 | | | 32·47 |
| 13 | | | 32·56 |

| π Sagittarii. | h. | m. | s. |
|---|---|---|---|
| July 21 | 19 | 0 | 21·59 |
| Oct. 11 | | | 21·86 |

| η Lyræ. | | | |
|---|---|---|---|
| July 21 | 19 | 8 | 22·84 |
| 22 | | | 22·90 |
| Aug. 2 | | | 22·13 |

| 1 Sagittæ. | | | |
|---|---|---|---|
| July 14 | 19 | 8 | 29·00 |
| 15 | | | 29·03 |
| 16 | | | 29·16 |

| 53 Draconis. | | | |
|---|---|---|---|
| Aug. 3 | 19 | 8 | 41·09 |
| 4 | | | 40·96 |
| 9 | | | 40·94 |

| 22 Aquilæ. | | | |
|---|---|---|---|
| July 6 | 19 | 8 | 41·94 |
| 9 | | | 41·84 |
| 13 | | | 42·00 |

| 1 Vulpeculæ. | | | |
|---|---|---|---|
| July 28 | 19 | 9 | 25·60 |
| 30 | | | 25·51 |
| Aug. 1 | | | 25·34 |

| θ Lyræ. | | | |
|---|---|---|---|
| July 14 | 19 | 10 | 53·15 |
| 15 | | | 53·20 |

| 54 Draconis. | | | |
|---|---|---|---|
| July 4 | 19 | 11 | 5·90 |
| 29 | | | 5·88 |
| Aug. 2 | | | 5·82 |

| 26 Aquilæ. | | | |
|---|---|---|---|
| July 6 | 19 | 12 | 6·72 |
| 9 | | | 6·77 |
| 13 | | | 6·81 |

| δ Draconis. | h. | m. | s. |
|---|---|---|---|
| July 30 | 19 | 12 | 30·29 |
| Aug. 1 | | | 30·26 |
| 9 | | | 30·24 |
| 15 | | | 30·13 |
| 19 | | | 29·94 |

| κ Cygni. | | | |
|---|---|---|---|
| July 21 | 19 | 13 | 26·97 |
| 22 | | | 27·08 |
| 23 | | | 26·84 |

| 59 Draconis. | | | |
|---|---|---|---|
| Aug. 2 | 19 | 14 | 54·25 |
| 3 | | | 54·02 |
| 13 | | | 54·16 |
| 20 | | | 54·19 |
| 22 | | | 53·79 |

| 3 Vulpeculæ. | | | |
|---|---|---|---|
| June 29 | 19 | 16 | 22·61 |
| July 6 | | | 22·77 |
| 15 | | | 22·91 |

| 31 Aquilæ. | | | |
|---|---|---|---|
| July 23 | 19 | 17 | 26·19 |
| 29 | | | 26·14 |
| 30 | | | 26·26 |

| δ Aquilæ. | | | |
|---|---|---|---|
| June 23 | 19 | 17 | 31·89 |
| July 4 | | | 31·82 |
| 28 | | | 31·95 |
| Aug. 4 | | | 31·84 |
| 9 | | | 31·94 |
| 17 | | | 31·95 |
| 19 | | | 31·78 |
| 24 | | | 31·90 |
| Oct. 11 | | | 32·01 |
| Nov. 3 | | | 31·80 |
| 9 | | | 31·88 |
| 18 | | | 31·90 |
| 23 | | | 31·89 |

| ν Aquilæ. | | | |
|---|---|---|---|
| June 29 | 19 | 18 | 26·16 |
| July 21 | | | 26·17 |
| 22 | | | 26·16 |

| τ Draconis. | h. | m. | s. |
|---|---|---|---|
| Aug. 30 | 19 | 18 | 33·10 |
| Sept. 6 | | | 33·18 |
| 16 | | | 34·03 |
| 17 | | | 34·20 |
| 19 | | | 34·14 |

| 3 Cygni. | | | |
|---|---|---|---|
| Aug. 1 | 19 | 18 | 53·48 |
| 2 | | | 53·71 |
| 3 | | | 53·72 |

| 8 Vulpeculæ. | | | |
|---|---|---|---|
| July 21 | 19 | 22 | 21·48 |
| 22 | | | 21·60 |
| 23 | | | 21·51 |

| $\beta^1$ Cygni. | | | |
|---|---|---|---|
| July 21 | 19 | 24 | 21·02 |
| 22 | | | 21·06 |
| 23 | | | 21·00 |

| A.S.C. 2283. | | | |
|---|---|---|---|
| July 28 | 19 | 25 | 10·45 |
| 29 | | | 10·32 |
| 30 | | | 10·66 |

| ι Cygni. | | | |
|---|---|---|---|
| Aug. 9 | 19 | 25 | 43·09 |
| 13 | | | 43·18 |
| 16 | | | 43·04 |

| μ Aquilæ. | | | |
|---|---|---|---|
| Aug. 2 | 19 | 26 | 22·18 |
| 3 | | | 22·36 |
| 17 | | | 22·19 |

| 37 Aquilæ. | | | |
|---|---|---|---|
| July 22 | 19 | 26 | 24·65 |
| 23 | | | 24·65 |
| Aug. 1 | | | 24·61 |

| 52 Sagittarii. | | | |
|---|---|---|---|
| July 21 | 19 | 27 | 5·26 |
| Oct. 11 | | | 5·16 |

**9 Vulpeculæ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 28 | 19 | 27 | 38·67 |
| | 29 | | | 38·53 |
| | 30 | | | 38·60 |

**κ Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 22 | 19 | 28 | 23·22 |
| | 23 | | | 23·38 |
| Aug. | 1 | | | 23·26 |

**ι Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 2 | 19 | 28 | 32·88 |
| | 3 | | | 32·88 |
| | 13 | | | 32·78 |

**9 Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 15 | 19 | 28 | 34·36 |
| | 17 | | | 34·30 |
| | 19 | | | 34·36 |

**42 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 29 | 24·33 |
| | 28 | | | 24·35 |
| | 29 | | | 24·17 |

**σ Draconis.**

| | | | | |
|---|---|---|---|---|
| July | 28 | 19 | 32 | 39·43 |
| Aug. | 3 | | | 39·24 |
| | 13 | | | 39·47 |
| | 16 | | | 39·12 |
| | 19 | | | 39·54 |

**α Sagittæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 33 | 2·07 |
| | 22 | | | 2·02 |
| | 23 | | | 2·03 |

**φ Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 2 | 19 | 33 | 8·20 |
| | 15 | | | 8·19 |
| | 17 | | | 8·30 |

**β Sagittæ.**

| | | | | |
|---|---|---|---|---|
| July | 29 | 19 | 33 | 57·20 |
| | 30 | | | 57·13 |
| Aug. | 1 | | | 56·98 |

**χ Aquilæ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 19 | 35 | 8·01 |
| | 22 | | | 7·94 |
| | 23 | | | 7·90 |

**10 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| July | 22 | 19 | 37 | 8·99 |
| | 23 | | | 8·74 |
| | 28 | | | 8·88 |

**A.S.C. 2315.**

| | | | | |
|---|---|---|---|---|
| July | 29 | 19 | 37 | 27·58 |
| | 30 | | | 27·68 |
| Aug. | 1 | | | 27·46 |

**15 Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 2 | 19 | 38 | 34·66 |
| | 3 | | | 34·92 |
| | 4 | | | 34·76 |

**γ Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | 19 | 38 | 44·83 |
| June | 23 | | | 44·75 |
| July | 28 | | | 44·79 |
| Aug. | 5 | | | 44·93 |
| | 6 | | | 44·92 |
| | 9 | | | 44·78 |
| | 13 | | | 44·88 |
| | 15 | | | 44·91 |
| | 16 | | | 44·94 |
| | 17 | | | 44·85 |
| | 19 | | | 44·83 |
| | 20 | | | 44·95 |
| | 22 | | | 44·81 |
| | 24 | | | 44·92 |
| | 30 | | | 44·87 |
| | 31 | | | 44·95 |
| Sept. | 6 | | | 44·89 |
| | 10 | | | 44·90 |
| | 13 | | | 44·77 |
| | 16 | | | 44·89 |
| Nov. | 15 | | | 44·89 |
| | 29 | | | 45·01 |
| | 30 | | | 44·86 |
| Dec. | 17 | | | 44·82 |
| | 28 | | | 44·98 |
| | 29 | | | 44·81 |
| | 31 | | | 44·87 |

**ζ Sagittæ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 19 | 41 | 57·90 |
| | 23 | | | 57·67 |
| | 28 | | | 57·84 |

**57 Sagittarii.**

| | | | | |
|---|---|---|---|---|
| June | 23 | 19 | 43 | 0·76 |
| Aug. | 18 | | | 0·73 |

**α Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | 19 | 43 | 4·47 |
| | 8 | | | 4·47 |
| | 18 | | | 4·48 |
| | 24 | | | 4·53 |
| Apr. | 3 | | | 4·48 |
| Aug. | 5 | | | 4·47 |
| | 6 | | | 4·42 |
| | 13 | | | 4·38 |
| | 15 | | | 4·44 |
| | 16 | | | 4·42 |
| | 17 | | | 4·30 |
| | 19 | | | 4·47 |
| | 20 | | | 4·46 |
| | 22 | | | 4·52 |
| | 24 | | | 4·41 |
| | 27 | | | 4·52 |
| | 30 | | | 4·40 |
| | 31 | | | 4·37 |
| Sept. | 6 | | | 4·43 |
| | 10 | | | 4·42 |
| | 13 | | | 4·47 |
| | 15 | | | 4·55 |
| | 16 | | | 4·54 |
| Nov. | 15 | | | 4·44 |
| | 29 | | | 4·40 |
| | 30 | | | 4·47 |
| Dec. | 3 | | | 4·46 |
| | 12 | | | 4·47 |
| | 17 | | | 4·39 |
| | 24 | | | 4·36 |
| | 27 | | | 4·49 |
| | 28 | | | 4·38 |
| | 29 | | | 4·43 |

**54 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 43 | 27·44 |
| | 29 | | | 27·38 |
| | 30 | | | 27·49 |

**12 Vulpeculæ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 19 | 44 | 16·02 |
| | 23 | | | 16·00 |
| | 28 | | | 15·97 |

**η Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 1 | 19 | 44 | 25·20 |
| | 2 | | | 25·41 |
| | 3 | | | 25·63 |

**56 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 29 | 19 | 45 | 33·64 |
| Aug. | 13 | | | 33·75 |
| | 15 | | | 33·64 |

**ξ Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 22 | 19 | 46 | 35·47 |
| | 23 | | | 35·38 |
| | 30 | | | 35·50 |

**58 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 46 | 39·12 |
| Aug. | 1 | | | 39·05 |
| | 2 | | | 39·16 |

**13 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 3 | 19 | 46 | 44·89 |
| | 17 | | | 44·78 |
| | 19 | | | 44·77 |

**β Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Apr. | 3 | 19 | 47 | 33·04 |
| July | 28 | | | 33·14 |
| Aug. | 9 | | | 33·07 |
| | 15 | | | 33·06 |
| | 20 | | | 33·08 |
| | 30 | | | 33·24 |
| | 31 | | | 33·13 |
| Sept. | 13 | | | 33·15 |
| | 15 | | | 33·08 |
| Nov. | 8 | | | 33·03 |
| Dec. | 3 | | | 33·15 |

**φ Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 22 | 19 | 48 | 45·41 |
| | 23 | | | 45·23 |
| | 29 | | | 45·25 |

**10 Sagittæ.**

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 19 | 48 | 50·63 |
| | 30 | | | 50·73 |
| Aug. | 1 | | | 50·58 |

**A.S.C. 2358.**

| | | | | |
|---|---|---|---|---|
| July | 28 | 19 | 55 | 3·17 |
| Aug. | 1 | | | 2·98 |
| | 2 | | | 3·16 |

**16 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 3 | 19 | 55 | 19·40 |
| | 4 | | | 19·34 |
| | 9 | | | 19·12 |

**62 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 56 | 14·67 |
| | 22 | | | 14·63 |
| | 23 | | | 14·73 |

**14 Sagittæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 13 | 19 | 56 | 16·30 |
| | 15 | | | 16·29 |
| | 17 | | | 16·21 |

**τ Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 30 | 19 | 56 | 25·23 |
| Aug. | 16 | | | 25·11 |
| | 19 | | | 25·35 |

**15 Sagittæ.**

| | | | | |
|---|---|---|---|---|
| July | 28 | 19 | 57 | 0·35 |
| | 29 | | | 0·29 |
| Aug. | 1 | | | 0·34 |

**η Sagittæ.**

| | | | | |
|---|---|---|---|---|
| July | 30 | 19 | 58 | 9·13 |
| Aug. | 2 | | | 9·19 |
| | 3 | | | 9·18 |

**64 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | 19 | 59 | 52·11 |
| | 22 | | | 52·21 |
| | 23 | | | 52·19 |

### ϱ Draconis.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 17 | 20 | 2 | 5·32 |
| | 19 | | | 5·29 |

### 66 Draconis.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 20 | 20 | 3 | 1·58 |
| | 22 | | | 1·96 |

### 28 Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 28 | 20 | 3 | 33·70 |
| Aug. | 1 | | | 33·48 |
| | 13 | | | 33·61 |

### 69 Draconis.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 17 | 20 | 3 | 57·16 |
| | 19 | | | 57·06 |
| | 20 | | | 56·90 |
| | 22 | | | 56·90 |
| | 30 | | | 56·78 |

### 18 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 20 | 3 | 57·96 |
| | 22 | | | 57·99 |
| | 23 | | | 57·92 |

### 20 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 13 | 20 | 5 | 23·28 |
| | 15 | | | 23·19 |
| | 16 | | | 23·18 |

### ϱ Aquilæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 20 | 6 | 57·96 |
| | 22 | | | 58·01 |
| | 23 | | | 57·98 |

### 21 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 13 | 20 | 7 | 45·16 |
| | 15 | | | 45·12 |
| | 17 | | | 45·14 |

### ο² Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 17 | 20 | 8 | 39·39 |
| | 19 | | | 39·39 |
| | 20 | | | 39·32 |

### 22 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 23 | 20 | 8 | 40·78 |
| Aug. | 30 | | | 40·88 |
| | 31 | | | 40·93 |

### 23 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 12 | 20 | 9 | 13·26 |
| | 13 | | | 13·20 |
| | 15 | | | 13·44 |

### α² Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 20 | 9 | 17·01 |
| | 22 | | | 17·06 |
| Aug. | 18 | | | 17·02 |
| Oct. | 17 | | | 16·95 |
| | 20 | | | 17·06 |
| | 22 | | | 17·22 |

### 18 Sagittæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 19 | 20 | 9 | 23·27 |
| | 20 | | | 23·30 |
| | 22 | | | 23·35 |

### 33 Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 11 | 20 | 9 | 43·29 |
| | 12 | | | 43·47 |
| | 15 | | | 43·47 |

### β² Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept | 15 | 20 | 12 | 7·79 |
| Oct. | 11 | | | 7·69 |
| | 12 | | | 7·57 |

### ϰ Cephei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 15 | 20 | 14 | 6·31 |
| | 17 | | | 5·50 |

### 39 Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 20 | 17 | 33·14 |
| | 22 | | | 33·11 |
| | 23 | | | 33·17 |

### ϱ Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 21 | 20 | 19 | 50·49 |
| | 22 | | | 50·51 |
| Oct. | 11 | | | 50·49 |

### λ Ursæ Minoris.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 6 | 20 | 19 | 57·42 |
| | 30 | | | 60·39 |
| Oct. | 6 | | | 58·51 |
| | 7 | | | 59·14 |
| | 8 | | | 61·99 |

### ο¹ Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 17 | 20 | 20 | 48·52 |
| | 19 | | | 48·52 |
| | 20 | | | 48·84 |
| | 22 | | | 48·77 |
| | 24 | | | 48·86 |
| Nov. | 1 | | | 48·88 |

### ο² Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 17 | 20 | 20 | 49·85 |
| | 19 | | | 49·92 |
| | 20 | | | 49·87 |
| | 22 | | | 50·17 |
| | 24 | | | 50·23 |
| Nov. | 1 | | | 50·16 |

### ε Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 25 | 39·84 |
| | 23 | | | 39·80 |
| Aug. | 13 | | | 39·73 |

### ω³ Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 19 | 20 | 26 | 26·39 |
| | 20 | | | 26·15 |
| | 22 | | | 26·34 |

### η Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 26 | 28·62 |
| | 17 | | | 28·76 |
| | 18 | | | 28·48 |

### θ Cephei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 17 | 20 | 26 | 55·30 |
| | 19 | | | 55·43 |

### ζ Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 27 | 55·43 |
| | 23 | | | 55·25 |
| Aug. | 13 | | | 55·24 |

### 70 Aquilæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 28 | 29·80 |
| | 17 | | | 29·90 |
| | 18 | | | 29·69 |

### β Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 30 | 8·36 |
| | 16 | | | 8·28 |
| | 20 | | | 8·42 |

### 71 Aquilæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 30 | 10·63 |
| | 23 | | | 10·54 |
| Aug. | 13 | | | 10·55 |

### υ Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 18 | 20 | 31 | 2·92 |
| | 19 | | | 2·98 |

### 29 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 31 | 20 | 31 | 28·11 |
| Sept. | 3 | | | 27·90 |
| | 12 | | | 27·91 |

### α Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 23 | 20 | 32 | 17·90 |
| Aug. | 13 | | | 18·03 |
| | 16 | | | 17·85 |

### A.S.C. 2440.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 17 | 20 | 32 | 29;48 |
| | 20 | | | 29·44 |
| | 30 | | | 29·42 |

### 10 Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 23 | 20 | 33 | 52·42 |
| Aug. | 13 | | | 52·40 |
| | 15 | | | 52·42 |

### α Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 6 | 20 | 36 | 3·01 |
| | 7 | | | 2·85 |
| | 15 | | | 2·70 |
| | 17 | | | 3·00 |
| | 19 | | | 2·81 |
| | 25 | | | 2·82 |
| Apr. | 3 | | | 2·93 |
| Aug. | 16 | | | 2·62 |
| | 18 | | | 2·67 |
| | 20 | | | 2·78 |
| | 30 | | | 2·70 |
| Sept. | 3 | | | 2·77 |
| | 9 | | | 2·61 |
| | 13 | | | 2·70 |
| | 15 | | | 2·77 |
| | 16 | | | 2·91 |
| | 17 | | | 2·83 |
| | 19 | | | 2·89 |
| | 20 | | | 2·79 |
| | 28 | | | 2·88 |
| | 30 | | | 3·00 |
| Oct. | 6 | | | 2·88 |
| | 10 | | | 2·71 |
| | 19 | | | 2·81 |
| | 24 | | | 2·75 |
| | 26 | | | 2·51 |
| Nov. | 9 | | | 2·74 |
| Dec. | 12 | | | 2·83 |
| | 16 | | | 2·88 |
| | 22 | | | 2·81 |
| | 23 | | | 2·80 |
| | 29 | | | 2·77 |
| | 31 | | | 2·88 |

### δ Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 36 | 4·97 |
| | 23 | | | 4·94 |
| Aug. | 13 | | | 4·93 |

### 30 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 38 | 2·37 |
| | 17 | | | 2·50 |
| | 18 | | | 2·23 |

### ε Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 20 | 39 | 7·15 |

### γ Delphini, following.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 22 | 20 | 39 | 19.93 |
| | 30 | | | 19·80 |
| | 31 | | | 19·78 |

3 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 39 | 23·87 |
| | 23 | | | 23·79 |
| Aug. | 19 | | | 24·03 |

λ Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 17 | 20 | 39 | 58·76 |
| | 18 | | | 58·60 |
| | 20 | | | 58·73 |

η Cephei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 17 | 20 | 42 | 4·19 |
| | 20 | | | 4·08 |

4 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 43 | 2·88 |
| | 17 | | | 2·98 |
| | 20 | | | 2·94 |

5 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 3 | 20 | 43 | 47·23 |
| | 6 | | | 47·18 |
| | 9 | | | 47·09 |

μ Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 44 | 7·70 |
| | 23 | | | 7·57 |
| Aug. | 18 | | | 7·57 |
| | 19 | | | 7·83 |

31 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 15 | 20 | 45 | 21·97 |
| | 16 | | | 21·90 |
| | 17 | | | 22·15 |

57 Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 16 | 20 | 47 | 39·52 |
| | 22 | | | 40·06 |
| | 31 | | | 39·76 |

A.S.C. 2476.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 47 | 46·01 |
| | 33 | | | 45·91 |
| Aug. | 15 | | | 45·98 |

32 Vulpeculæ.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 12 | 20 | 47 | 49·71 |
| | 13 | | | 49·72 |
| | 16 | | | 49·79 |

χ Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 18 | 20 | 48 | 6·12 |
| | 19 | | | 6·47 |
| | 30 | | | 6·25 |

μ Delphini.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 3 | 20 | 48 | 7·76 |
| | 6 | | | 7·81 |
| | 9 | | | 7·74 |

ν Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 51 | 17·22 |
| Aug. | 15 | | | 16·95 |
| | 17 | | | 17·21 |

21 Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 19 | 20 | 51 | 57·76 |
| | 20 | | | 57·80 |
| | 24 | | | 57·79 |

A.S.C. 2493.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 13 | 20 | 52 | 3·68 |
| Nov. | 1 | | | 3·52 |
| | 9 | | | 3·46 |

11 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 23 | 20 | 52 | 14·44 |
| Aug. | 18 | | | 14·35 |
| | 19 | | | 14·62 |

76 Draconis.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 26 | 20 | 53 | 39·39 |
| | 29 | | | 38·11 |

λ Equulei, following.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 54 | 25·25 |
| | 23 | | | 25·10 |
| Aug. | 15 | | | 25·20 |

A.S.C. 2499.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 20 | 54 | 32·44 |
| Sept. | 3 | | | 32·37 |
| | 6 | | | 32·49 |
| | 9 | | | 32·49 |
| | 13 | | | 32·48 |
| Nov. | 14 | | | 32·37 |

12 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 18 | 20 | 55 | 42·87 |
| | 19 | | | 43·15 |
| | 30 | | | 42·91 |

ζ Equulei.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 56 | 42·59 |
| | 23 | | | 42·49 |
| Aug. | 15 | | | 42·63 |

θ Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 12 | 20 | 57 | 3·49 |

ξ Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 20 | 59 | 11·28 |
| | 23 | | | 11·14 |
| Aug. | 19 | | | 11·21 |

61 Cygni, preceding.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 20 | 20 | 59 | 49·06 |
| | 30 | | | 48·38 |
| Oct. | 4 | | | 49·17 |
| | 7 | | | 49·29 |
| | 8 | | | 49·26 |
| | 10 | | | 49·24 |

61 Cygni, following.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 20 | 20 | 59 | 50·56 |
| | 30 | | | 49·85 |
| Oct. | 4 | | | 50·55 |
| | 7 | | | 50·74 |
| | 8 | | | 50·68 |
| | 10 | | | 50·69 |

ζ Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 4 | 21 | 6 | 12·92 |
| Mar. | 7 | | | 12·82 |

ζ Cygni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Apr. | 4 | 21 | 6 | 12·84 |
| May | 1 | | | 12·88 |
| Aug. | 19 | | | 12·90 |
| Sept. | 3 | | | 12·87 |
| | 13 | | | 12·91 |
| | 17 | | | 12·88 |
| | 20 | | | 12·89 |
| | 30 | | | 13·00 |
| Oct. | 6 | | | 12·92 |
| | 7 | | | 13·05 |
| | 8 | | | 12·92 |
| | 10 | | | 12·92 |
| | 26 | | | 12·93 |
| | 29 | | | 12·83 |
| Nov. | 5 | | | 12·83 |
| | 9 | | | 12·84 |
| | 14 | | | 12·89 |
| | 29 | | | 12·79 |
| Dec. | 24 | | | 13·00 |
| | 31 | | | 12·86 |

29 Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| July | 22 | 21 | 6 | 59·73 |
| | 23 | | | 59·71 |
| Oct. | 12 | | | 59·68 |

77 Draconis.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 8 | 32·41 |
| | 22 | | | 32·19 |
| | 30 | | | 31·91 |
| Sept. | 6 | | | 32·37 |
| | 9 | | | 32·36 |

31 Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 21 | 9 | 24·93 |
| | 23 | | | 24·69 |
| | 29 | | | 24·89 |

ι Capricorni.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 13 | 26·54 |
| Nov. | 9 | | | 26·52 |

1 Pegasi.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 22 | 21 | 14 | 47·06 |
| | 30 | | | 46·84 |
| Sept. | 3 | | | 46·75 |

β Equulei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 6 | 21 | 15 | 3·02 |
| | 9 | | | 2·93 |
| | 16 | | | 3·09 |

6 Cephei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 17 | 21 | 16 | 4·89 |
| | 20 | | | 4·99 |
| Oct. | 6 | | | 5·29 |
| | 7 | | | 5·33 |
| | 8 | | | 5·33 |
| | 29 | | | 4·79 |
| Nov. | 5 | | | 4·98 |

A.S.C. 2541.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 16 | 51·91 |
| | 30 | | | 51·92 |
| Sept. | 9 | | | 51·85 |

21 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 22 | 21 | 17 | 2·54 |
| Sept. | 3 | | | 2·44 |
| | 6 | | | 2·42 |

β Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 23 | 14·21 |
| | 21 | | | 14·22 |
| Sept. | 8 | | | 14·17 |
| Oct. | 12 | | | 14·17 |
| | 29 | | | 14·24 |
| Nov. | 9 | | | 14·20 |
| | 14 | | | 14·17 |

9 Cephei.

| | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 15 | 21 | 33 | 40·94 |
| | 29 | | | 40·78 |

26 Aquarii.

| | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 34 | 6·65 |
| | 21 | | | 6·62 |
| | 30 | | | 6·70 |

7 Pegasi.

| | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 3 | 21 | 34 | 21·27 |
| | 8 | | | 21·20 |
| | 17 | | | 21·26 |

| 44 Capricorni. | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 9 | 21 | 34 | 26·88 |
| | 14 | | | 26·67 |
| | 23 | | | 26·68 |

| ε Pegasi. | | | | |
|---|---|---|---|---|
| Jan. | 4 | 21 | 36 | 25·64 |
| | 6 | | | 25·58 |
| | 7 | | | 25·56 |
| | 15 | | | 25·59 |
| | 27 | | | 25·56 |
| Mar. | 7 | | | 25·53 |
| Apr. | 4 | | | 25·52 |
| May | 1 | | | 25·63 |
| | 2 | | | 25·57 |
| Aug. | 21 | | | 25·46 |
| Sept. | 3 | | | 25·55 |
| | 8 | | | 25·60 |
| | 16 | | | 25·55 |
| | 17 | | | 25·58 |
| | 28 | | | 25·57 |
| Oct. | 15 | | | 25·61 |

| 9 Pegasi. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 21 | 37 | 1·84 |
| | 22 | | | 1·94 |
| Sept. | 6 | | | 1·90 |

| μ Cygni, preceding. | | | | |
|---|---|---|---|---|
| Sept. | 20 | 21 | 37 | 4·95 |
| Oct. | 7 | | | 4·91 |
| | 8 | | | 4·95 |

| κ Pegasi. | | | | |
|---|---|---|---|---|
| Oct. | 10 | 21 | 37 | 29·58 |
| | 11 | | | 29·63 |
| | 12 | | | 29·54 |

| λ Capricorni. | | | | |
|---|---|---|---|---|
| July | 23 | 21 | 38 | 1·46 |

| 12 Pegasi. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 21 | 38 | 48·48 |
| | 21 | | | 48·20 |
| | 22 | | | 48·49 |

| 11 Pegasi. | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 3 | 21 | 39 | 13·27 |
| | 6 | | | 13·21 |
| | 8 | | | 13·24 |

| τ Cephei. | | | | |
|---|---|---|---|---|
| Sept. | 15 | 21 | 39 | 35·17 |
| Oct. | 6 | | | 35·39 |
| | 13 | | | 35·04 |
| | 15 | | | 35·11 |

| σ Cephei. | | | | |
|---|---|---|---|---|
| Nov. | 9 | 21 | 40 | 53·07 |

| 78 Draconis. | | | | |
|---|---|---|---|---|
| Nov. | 23 | 21 | 41 | 6·69 |
| | 29 | | | 6·88 |

| 13 Pegasi. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 21 | 42 | 37·72 |
| | 21 | | | 37·70 |
| | 22 | | | 37·76 |

| 14 Pegasi. | | | | |
|---|---|---|---|---|
| Sept. | 3 | 21 | 42 | 51·49 |
| | 6 | | | 51·59 |
| | 8 | | | 51·57 |

| 15 Pegasi. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 21 | 45 | 27·03 |
| | 21 | | | 26·85 |
| | 22 | | | 27·00 |

| 16 Pegasi. | | | | |
|---|---|---|---|---|
| Sept. | 3 | 21 | 45 | 52·62 |
| | 6 | | | 52·54 |
| | 8 | | | 52·57 |

| 30 Aquarii. | | | | |
|---|---|---|---|---|
| July | 23 | 21 | 54 | 57·49 |

| ο Aquarii. | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 55 | 8·43 |
| | 21 | | | 8·40 |
| | 22 | | | 8·48 |

| 21 Pegasi. | | | | |
|---|---|---|---|---|
| Sept. | 3 | 21 | 55 | 33·96 |
| | 6 | | | 33·91 |
| | 8 | | | 33·92 |

| 32 Aquarii. | | | | |
|---|---|---|---|---|
| Sept. | 20 | 21 | 56 | 39·84 |
| | 29 | | | 39·92 |
| Oct. | 7 | | | 39·84 |

| α Aquarii. | | | | |
|---|---|---|---|---|
| May | 1 | 21 | 57 | 40·00 |
| | 2 | | | 39·99 |
| Sept. | 3 | | | 40·07 |
| | 8 | | | 39·95 |
| | 27 | | | 40·06 |
| Oct | 1 | | | 39·95 |
| | 18 | | | 40·04 |
| | 20 | | | 40·00 |
| | 24 | | | 40·03 |
| Dec. | 29 | | | 40·10 |
| | 31 | | | 40·01 |

| ν Pegasi. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 21 | 57 | 42·74 |
| | 22 | | | 42·77 |
| Sept. | 6 | | | 42·64 |

| ι Aquarii. | | | | |
|---|---|---|---|---|
| Sept. | 17 | 21 | 57 | 53·90 |

| 23 Pegasi. | | | | |
|---|---|---|---|---|
| Sept. | 20 | 21 | 58 | 25·44 |
| | 29 | | | 25·56 |
| Oct. | 8 | | | 25·55 |

| ξ Cephei, following. | | | | |
|---|---|---|---|---|
| Sept. | 30 | 21 | 59 | 13·58 |
| Oct. | 6 | | | 13·24 |
| | 10 | | | 13·28 |
| | 13 | | | 13·20 |
| | 15 | | | 13·26 |

| ι Pegasi. | | h. | m. | s. |
|---|---|---|---|---|
| Aug. | 20 | 21 | 59 | 39·86 |
| | 21 | | | 39·87 |
| | 22 | | | 39·89 |

| Groombridge 3707, pre. | | | | |
|---|---|---|---|---|
| Oct. | 7 | 22 | 3 | 34·38 |
| | 8 | | | 34·30 |
| | 11 | | | 33·66 |
| | 12 | | | 33·98 |
| | 20 | | | 33·73 |

| ζ Cephei. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 22 | 5 | 23·06 |
| | 21 | | | 22·88 |
| | 22 | | | 22·99 |

| A.S.C. 2650. | | | | |
|---|---|---|---|---|
| Sept. | 8 | 22 | 7 | 6·16 |
| | 20 | | | 6·25 |
| Oct. | 1 | | | 6·33 |

| θ Aquarii. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 22 | 8 | 29·59 |
| Sept. | 17 | | | 29·69 |

| 1 Lacertæ. | | | | |
|---|---|---|---|---|
| Sept. | 8 | 22 | 9 | 5·40 |
| Oct. | 8 | | | 5·43 |
| | 10 | | | 5·56 |

| A.S.C. 2673. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 22 | 16 | 26·66 |
| | 18 | | | 26·63 |
| | 20 | | | 26·62 |

| π Aquarii. | | | | |
|---|---|---|---|---|
| Sept. | 8 | 22 | 17 | 12·44 |
| | 20 | | | 12·52 |
| | 27 | | | 12·28 |

| 3 Lacertæ. | | | | |
|---|---|---|---|---|
| Oct. | 1 | 22 | 17 | 21·71 |
| | 6 | | | 21·45 |
| | 7 | | | 21·64 |

| 4 Lacertæ. | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 29 | 22 | 18 | 7·54 |
| Oct. | 24 | | | 7·34 |
| | 26 | | | 7·37 |

| 34 Pegasi. | | | | |
|---|---|---|---|---|
| Oct. | 8 | 22 | 18 | 34·88 |
| | 11 | | | 35·05 |
| | 12 | | | 34·80 |

| 35 Pegasi. | | | | |
|---|---|---|---|---|
| Sept. | 8 | 22 | 19 | 51·57 |
| | 20 | | | 51·69 |
| | 27 | | | 51·54 |

| ζ Aquarii. | | | | |
|---|---|---|---|---|
| Aug. | 20 | 22 | 20 | 42·00 |

| δ Cephei. | | | | |
|---|---|---|---|---|
| Sept. | 17 | 22 | 23 | 18·93 |
| | 20 | | | 18·91 |
| | 27 | | | 18·78 |

| η Aquarii. | | | | |
|---|---|---|---|---|
| Dec. | 8 | 22 | 27 | 14·06 |

| 31 Cephei. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 22 | 31 | 51·68 |
| | 20 | | | 51·85 |

| 30 Cephei. | | | | |
|---|---|---|---|---|
| Jan. | 6 | 22 | 33 | 3·58 |
| Nov. | 23 | | | 3·28 |
| | 25 | | | 3·59 |

| ζ Pegasi. | | | | |
|---|---|---|---|---|
| Jan. | 17 | 22 | 33 | 35·17 |
| May | 2 | | | 35·06 |
| Sept. | 16 | | | 35·05 |
| | 20 | | | 35·02 |
| | 26 | | | 35·01 |
| | 27 | | | 35·00 |
| | 28 | | | 35·03 |
| | 29 | | | 35·00 |

| ζ Pegasi. | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 1 | 22 | 33 | 35·15 |
| | 18 | | | 34·92 |
| | 21 | | | 35·01 |
| | 25 | | | 35·12 |
| | 26 | | | 35·14 |
| Dec. | 1 | | | 35·14 |
| | 8 | | | 35·05 |

| ι Cephei. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 22 | 44 | 4·35 |
| | 20 | | | 4·34 |

| λ Aquarii. | | | | |
|---|---|---|---|---|
| Jan. | 15 | 22 | 44 | 22·01 |
| Aug. | 21 | | | 22·15 |
| | 22 | | | 22·17 |
| Sept. | 17 | | | 22·19 |

| A.S.C. 2734, following. | | | | |
|---|---|---|---|---|
| Sept. | 20 | 22 | 45 | 13·62 |
| Oct. | 7 | | | 13·83 |
| | 26 | | | 13·63 |
| Nov. | 23 | | | 13·36 |

| 77 Aquarii. | | | | |
|---|---|---|---|---|
| Oct. | 18 | 22 | 46 | 23·35 |
| | 24 | | | 23·61 |
| | 25 | | | 23·57 |

| 3 Piscium. | | | | |
|---|---|---|---|---|
| Sept | 17 | 22 | 52 | 31·76 |

| A.S.C. 2749. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 22 | 53 | 40·73 |
| | 18 | | | 40·68 |
| | 24 | | | 40·85 |

| Piazzi XXII. 295. | | h. | m. | s. |
|---|---|---|---|---|
| Sept. | 20 | 22 | 55 | 25·45 |
| Oct | 7 | | | 25·96 |
| | 11 | | | 25·44 |
| | 12 | | | 25·52 |
| | 20 | | | 25·12 |

| β Piscium. | | | | |
|---|---|---|---|---|
| Aug. | 21 | 22 | 55 | 50·27 |
| | 22 | | | 50·36 |

| α Pegasi. | | | | |
|---|---|---|---|---|
| Jan. | 15 | 22 | 56 | 53·63 |
| | 17 | | | 53·63 |
| | 18 | | | 53·80 |
| | 20 | | | 53·75 |
| | 25 | | | 53·76 |
| | 27 | | | 53·72 |
| | 28 | | | 53·80 |
| | 29 | | | 53·70 |
| Feb. | 5 | | | 53·80 |
| | 10 | | | 53·59 |
| | 15 | | | 53·74 |
| Aug. | 21 | | | 53·86 |
| Sept. | 14 | | | 53·74 |
| | 15 | | | 53·72 |
| | 29 | | | 53·80 |
| Oct. | 4 | | | 53·74 |
| | 15 | | | 53·76 |
| | 25 | | | 53·63 |
| Nov. | 25 | | | 53·80 |
| Dec. | 1 | | | 53·66 |
| | 8 | | | 53·77 |

| 83 Aquarii. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 22 | 56 | 55·06 |
| | 18 | | | 55·13 |
| | 24 | | | 55·31 |

| A.S.C. 2757. | | | | |
|---|---|---|---|---|
| Jan. | 6 | 22 | 57 | 33·13 |
| Oct. | 26 | | | 33·15 |
| | 29 | | | 33·14 |

| π Cephei. | | h. | m. | s. |
|---|---|---|---|---|
| Oct. | 13 | 23 | 2 | 53·38 |
| | 18 | | | 53·43 |

| γ Piscium. | | | | |
|---|---|---|---|---|
| June | 1 | 23 | 8 | 58·42 |

| 94 Aquarii. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 10 | 47·68 |
| | 18 | | | 47·62 |
| | 20 | | | 47·72 |

| A.S.C. 2792. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 15 | 25·57 |
| | 18 | | | 25·56 |
| | 20 | | | 25·64 |

| 4 Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 18 | 23 | 17 | 50·67 |
| Nov. | 9 | | | 50·89 |

| $\kappa^2$ Piscium. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 19 | 9·17 |
| | 20 | | | 9·25 |
| | 24 | | | 9·24 |

| A.S.C. 2802. | | | | |
|---|---|---|---|---|
| Oct. | 26 | 33 | 20 | 37·82 |
| Nov. | 18 | | | 37·77 |

| A.S.C. 2805. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 21 | 21·84 |
| | 18 | | | 21·95 |
| | 20 | | | 21·96 |

| A.S.C. 2809. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 24 | 0·79 |
| | 18 | | | 0·91 |
| | 20 | | | 0·88 |

| ι Piscium. | | h. | m. | s. |
|---|---|---|---|---|
| Jan. | 4 | 23 | 31 | 49·39 |
| | 7 | | | 49·54 |
| | 12 | | | 49·74 |
| | 15 | | | 49·59 |
| | 17 | | | 49·61 |
| Aug. | 22 | | | 49·61 |
| Sept. | 26 | | | 49·58 |
| | 28 | | | 49·57 |
| Oct. | 10 | | | 49·54 |
| | 17 | | | 49·57 |
| | 18 | | | 49·52 |
| | 25 | | | 49·64 |
| | 26 | | | 49·50 |
| Nov. | 7 | | | 49·51 |
| | 18 | | | 49·59 |
| | 30 | | | 49·54 |
| Dec. | 8 | | | 49·52 |

| γ Cephei. | | | | |
|---|---|---|---|---|
| Jan. | 5 | 23 | 32 | 54·61 |
| | 21 | | | 54·61 |
| | 25 | | | 54·72 |
| | 27 | | | 54·60 |
| | 28 | | | 54·76 |

| A.S.C. 2825. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 32 | 58·09 |
| | 20 | | | 58·10 |
| | 24 | | | 58·11 |

| 76 Pegasi. | | | | |
|---|---|---|---|---|
| Jan. | 3 | 23 | 34 | 43·14 |
| | 4 | | | 42·80 |

| ψ Andromedæ. | | | | |
|---|---|---|---|---|
| Jan. | 4 | 23 | 38 | 12·94 |
| | 5 | | | 13·27 |

| τ Cassiopeæ. | | | | |
|---|---|---|---|---|
| Jan. | 3 | 23 | 39 | 21·81 |

| A.S.C. 2843. | | h. | m. | s. |
|---|---|---|---|---|
| Nov. | 14 | 23 | 40 | 23·83 |
| | 30 | | | 23·68 |

| A.S.C. 2842. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 40 | 25·18 |
| | 19 | | | 25·25 |
| | 20 | | | 25·29 |

| A.S.C. 2853. | | | | |
|---|---|---|---|---|
| Jan. | 3 | 23 | 44 | 22·77 |
| | 5 | | | 22·55 |
| | 6 | | | 22·46 |

| 23 Piscium. | | | | |
|---|---|---|---|---|
| Jan. | 11 | 23 | 44 | 22·78 |
| | 12 | | | 22·73 |
| | 15 | | | 22·62 |

| φ Pegasi. | | | | |
|---|---|---|---|---|
| Jan. | 20 | 23 | 44 | 27·60 |
| | 21 | | | 27·46 |
| | 25 | | | 27·53 |

| ω Piscium. | | | | |
|---|---|---|---|---|
| June | 2 | 23 | 51 | 12·04 |
| Nov. | 13 | | | 12·06 |

| A.S.C. 2868. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 53 | 35·62 |
| | 18 | | | 35·55 |

| 3 Ceti. | | | | |
|---|---|---|---|---|
| Oct. | 13 | 23 | 56 | 24·62 |
| | 18 | | | 24·52 |
| | 19 | | | 24·68 |

| 4 Ceti. | | | | |
|---|---|---|---|---|
| Oct. | 20 | 23 | 59 | 38·60 |
| | 24 | | | 38·52 |
| | 26 | | | 38·46 |

ROYAL OBSERVATORY, EDINBURGH.

# EXPLANATION

OF THE

# TRANSIT OBSERVATIONS FOR 1842,

AND OF THE

# ELEMENTS FOR THEIR REDUCTION.

## EDINBURGH TRANSIT OBSERVATIONS FOR 1842.

Pages 1–83 contain the observations made with the Transit Instrument in the year 1842, together with the calculation of the Apparent Right Ascensions.

The objects chiefly observed were, the Sun, Moon, and Planets, the principal Stars for ascertaining the error and rate of the Clock, and the position of the Instrument, Moon-Culminating Stars, Stars contained in the Catalogue of the Royal Astronomical Society, and Groombridge's Catalogue of Circumpolar Stars.

Nearly the whole of these observations were made by the Assistant-Astronomer, Mr Alexander Wallace, M.A. Those which have a † annexed to them in the last column of the observations were made by the late Professor Henderson, and were so arranged as to obviate the necessity of applying any correction for personal equation.

The Transit Instrument was occasionally reversed, as mentioned in the observations, and, between two consecutive reversings, it was used in one position of the axis, which is indicated with respect to its illuminated end being east or west, in the Table of the Error of Collimation given below.

The intervals of the wires reduced to the Equator were determined from 27 transits of $\alpha$ Ursæ Minoris over all the Wires, made in the course of the year; and the distances of the Wires from the mean or middle point were found to be,

### Intervals of each Wire from the Mean (Illuminated End of Axis, East, and the Star above the Pole).

| Wires. | Interval for an Equatorial Star. | Interval for δ Ursæ Minoris Declination=86° 35′ + n″. | Interval for α Ursæ Minoris Declination=88° 27′ + n″. |
|---|---|---|---|
| | s. | m. s. s. | m. s. s. |
| I. | +26·570 | +7 25·91 + $n \times 0·036$ | +16 33·83 + $n \times 0·182$ |
| II. | +13·308 | +3 43·32 + $n \times 0·018$ | + 8 17·45 + $n \times 0·091$ |
| III. | − 0·009 | − 0·53 | − 1·18 |
| IV. | −13·296 | −3 43·11 − $n \times 0·018$ | − 8 17·00 − $n \times 0·091$ |
| V. | −26·574 | −7 25·98 − $n \times 0·037$ | −16 34·00 − $n \times 0·182$ |

The correction for the imperfect transit of a star, whose North Polar distance is not very small,

$$= \frac{\text{sum of equatorial intervals for Wires observed}}{\text{number of Wires}} \times \text{cosecant Stars N.P.D.},$$

this quantity being applied to the mean of whatever Wires were observed.

The signs and order of the Wires are to be changed when the illuminated end is East, and the star below the Pole, or when the illuminated end is West, and the Star above the Pole.

For the Sun and Planets, an additional factor is used.

$$\frac{3600 + \mathrm{I}}{3600}\text{; where I is the increase of AR in 1 hour.}$$

The Multiplier for the Moon takes account of the variation of AR, as affected by parallax, and is calculated by Mr AIRY's convenient formula,

$$\frac{3600 + \mathrm{I}}{3600} \times \frac{\text{sin Moon's geocentric ZD}}{\text{sin Moon's apparent ZD}} \times \text{cosecant of NPD.}$$

In all the calculations the Latitude of the Observatory has been assumed,

$= 55° 57' 23{\cdot}2''$ N, the Long. $= 0^h\ 12^m\ 43{\cdot}0^s$ W,

and the Geocentric Lat. $= 55° 46' 43''$.

The column entitled "Correction of Instrument," contains the corrections of the observed transits, arising from the deviation of the instrument from the meridian.

The column "Correction of Clock Observed," contains the corrections of the clock obtained from the observations of the standard Stars; and that entitled "Correction of Clock Interpolated," contains the quantities adopted in the reduction of the observations.

The sign +, prefixed to the correction of the clock, denotes that the clock is slow; the sign −, that it is fast.

The sum of the numbers in the columns, "Reduction to Mean of Wires," "Correction of Instrument," "Correction of Clock Interpolated," is the Apparent Right Ascension observed, given in the last column bearing that title.

The formula for correcting the observed transits for the deviation of the instrument from the meridian is,

$$\text{Correction} = (\text{error of collimation} + \text{level error} \times \cos \text{Zen. dist.} + \text{azimuthal error} \times \sin \text{Zen. dist.}) \times \text{cosecant NPD.}$$

The Collimation Error is the deviation of the line joining the centre of the object glass, and the mean of the wires, from the line perpendicular to the axis of rotation; positive when the object glass deviates to the east of the latter line; $-0^s{\cdot}012$, the diurnal aberration, is included, for practical convenience, in the sum representing the collimation.

The Level Error is the angle of inclination of the axis of rotation to the horizon, measured in a vertical plane; and is positive when the western end is higher than the other.

The Azimuthal Error is the angle of deviation of the axis of rotation from the east and west line, measured in a horizontal plane; and is positive when the western end deviates towards the north.

## THE COLLIMATION ERROR.

The Collimation of the Instrument was determined by measuring with the Micrometer, whenever the weather would permit, the distance of Wire III. from the north and south meridian marks in the reversed position of the axis.

$$\left.\begin{array}{l}\text{Let the Eastern distance of Wire III. from the South mark} = s\\ \text{———————————————— North ——} = n\end{array}\right\}\text{Illuminated end of axis West.}$$

$$\left.\begin{array}{l}\text{and ———————————————— South ——} = s'\\ \text{———————————————— North ——} = n'\end{array}\right\}\text{Illuminated end of axis East.}$$

then $(s + n) - (s' + n') = 4$ times the error of collimation.

The observed eastern distance of Wire III. from the marks is given in the following Table, and the column entitled "Sum," contains the values of $(s+n)$ and $(s'+n')$.

## TABLE I.

### OBSERVATIONS OF THE MERIDIAN MARKS.

| Date. | Wire III. East of | | Sum. | Illuminated End of Axis. |
|---|---|---|---|---|
| | North Mark. | South Mark. | | |
| 1842. | s. | s. | s. | |
| Jan. 2 | −1·22 | ...... | ...... | East |
| 4 | −1·15 | ...... | ...... | ...... |
| 4 | −1·34 | +1·56 | +0·22 | West |
| 12 | −1·56 | ...... | ...... | ...... |
| 13 | −1·55 | +1·79 | +0·24 | ...... |
| 23 | −1·41 | ...... | ...... | ...... |
| 24 | −1·42 | ...... | ...... | ...... |
| 26 | −1·41 | +1·63 | +0·22 | ...... |
| 27 | −1·46 | ...... | ...... | ...... |
| 30 | −1·48 | +1·62 | +0·14 | ...... |
| Feb. 3 | −1·28 | ...... | ...... | ...... |
| 12 | −1·24 | +1·42 | +0·18 | ...... |
| 16 | −1·15 | ...... | ...... | ...... |
| | | Mean | +0·200 | |
| (a) 16 | −1·22 | ...... | ...... | East. |
| 17 | −1·18 | ...... | ...... | ...... |
| 19 | −1·15 | +1·38 | +0·23 | ...... |
| 21 | −1·17 | ...... | ...... | ...... |
| 23 | −1·17 | ...... | ...... | ...... |
| 26 | −1·29 | ...... | ...... | ...... |
| 1842. | s. | s. | s. | |
| Feb. 27 | −1·37 | +1·60 | +0·23 | East |
| 28 | −1·33 | +1·59 | +0·26 | ...... |
| March 1 | −1·33 | +1·59 | +0·26 | ...... |
| 2 | −1·33 | ...... | ...... | ...... |
| 4 | −1·31 | +1·55 | +0·24 | ...... |
| 5 | −1·30 | +1·54 | +0·24 | ...... |
| 8 | −1·16 | +1·43 | +0·27 | ...... |
| 9 | −1·21 | ...... | ...... | ...... |
| 10 | −1·29 | ...... | ...... | ...... |
| 11 | −1·25 | +1·53 | +0·28 | ...... |
| 12 | −1·26 | +1·47 | +0·21 | ...... |
| 15 | −1·09 | +1·34 | +0·25 | ...... |
| 17 | −1·02 | +1·26 | +0·24 | ...... |
| 18 | −1·05 | ...... | ...... | ...... |
| 19 | −1·14 | ...... | ...... | ...... |
| 20 | −1·13 | ...... | ...... | ...... |
| 21 | −1·16 | ...... | ...... | ...... |
| 22 | −1·20 | +1·48 | +0·28 | ...... |
| 23 | −1·29 | ...... | ...... | ...... |
| 24 | −1·28 | ...... | ...... | ...... |
| 25 | −1·19 | +1·47 | +0·28 | ...... |
| 26 | −1·25 | ...... | ...... | ...... |
| 27 | −1·29 | ...... | ...... | ...... |
| 28 | −1·22 | +1·48 | +0·26 | ...... |

(a) South mark blown down, and replaced again.

| Date. | Wire III. East of | | Sum. | Illuminated End of Axis. |
|---|---|---|---|---|
| | North Mark. | South Mark. | | |
| 1842. | s. | s. | s. | |
| March 29 | −1·17 | +1·43 | +0·26 | East |
| 30 | −1·13 | +1·44 | +0·31 | ...... |
| 31 | −1·12 | ...... | ...... | ...... |
| April 1 | −1·15 | ...... | ...... | ...... |
| 2 | −1·17 | ...... | ...... | ...... |
| 6 | −1·19 | ...... | ...... | ...... |
| 7 | −1·12 | +1·43 | +0·31 | ...... |
| | | Mean | +0·259 | |
| 11 | −1·07 | ...... | ...... | West |
| 12 | −1·14 | ...... | ...... | ...... |
| 13 | −1·15 | ...... | ...... | ...... |
| 14 | −1·22 | +1·56 | +0·34 | ...... |
| 15 | −1·16 | +1·51 | +0·35 | ...... |
| 17 | −1·20 | ...... | ...... | ...... |
| 18 | −1·15 | ...... | ...... | ...... |
| 19 | −1·09 | ...... | ...... | ...... |
| 23 | −0·90 | ...... | ...... | ...... |
| 25 | −0·93 | ...... | ...... | ...... |
| 27 | −0·99 | ...... | ...... | ...... |
| 28 | −0·96 | ...... | ...... | ...... |
| 29 | −0·99 | +1·18 | +0·19 | ...... |
| 30 | −1·06 | ...... | ...... | ...... |
| May 2 | −1·00 | ...... | ...... | ...... |
| 3 | −0·98 | ...... | ...... | ...... |
| 4 | −0·95 | +1·23 | +0·28 | ...... |
| 5 | −0·93 | +1·22 | +0·29 | ...... |
| 8 | −0·96 | +1·28 | +0·32 | ...... |
| 11 | −0·88 | +1·17 | +0·29 | ...... |
| 12 | −0·96 | ...... | ...... | ...... |
| 18 | −0·86 | ...... | ...... | ...... |
| 19 | −0·91 | +1·20 | +0·29 | ...... |
| 20 | −0·87 | +1·10 | +0·23 | ...... |
| 21 | −0·88 | +1·16 | +0·28 | ...... |
| 23 | −0·88 | ...... | ...... | ...... |
| 24 | −0·80 | +1·07 | +0·27 | ...... |
| 26 | −0·88 | +1·15 | +0·27 | ...... |
| 27 | −0·88 | +1·14 | +0·26 | ...... |
| 28 | −0·88 | +1·09 | +0·23 | ...... |
| 29 | −0·86 | +1·09 | +0·21 | ...... |
| June 4 | −0·91 | +1·09 | +0·18 | ...... |
| 8 | −0·77 | ...... | ...... | ...... |
| | | Mean | +0·268 | |
| 13 | −0·67 | +1·03 | +0·36 | East |
| 14 | −0·69 | +1·05 | +0·36 | ...... |
| 15 | −0·75 | +1·13 | +0·38 | ...... |
| 16 | −0·72 | +1·07 | +0·35 | ...... |
| 18 | −0·86 | +1·20 | +0·34 | ...... |
| 19 | −0·81 | +1·16 | +0·35 | ...... |
| 22 | −0·77 | ...... | ...... | ...... |
| 23 | −0·81 | +1·16 | +0·35 | ...... |
| 24 | −0·77 | +1·10 | +0·33 | ...... |
| 25 | −0·74 | +1·10 | +0·36 | ...... |
| 1842. | s. | s. | s. | |
| June 28 | −0·78 | +1·11 | +0·33 | East |
| 29 | −0·79 | +1·13 | +0·34 | ...... |
| July 2 | −0·79 | +1·26 | (+0·47) | ...... |
| 9 | −0·83 | ...... | ...... | ...... |
| 10 | −0·88 | +1·20 | +0·32 | ...... |
| 11 | −0·84 | +1·13 | +0·29 | ...... |
| 12 | −0·86 | +1·15 | +0·29 | ...... |
| 13 | −0·81 | +1·15 | +0·34 | ...... |
| 14 | −0·81 | +1·15 | +0·34 | ...... |
| 15 | −0·82 | ...... | ...... | ...... |
| 16 | −0·64 | +0·98 | +0·34 | ...... |
| 18 | −0·79 | +1·12 | +0·33 | ...... |
| 20 | −0·85 | +1·17 | +0·32 | ...... |
| 21 | −0·84 | +1·17 | +0·33 | ...... |
| 22 | −0·86 | +1·17 | +0·31 | ...... |
| 23 | −0·84 | +1·19 | +0·35 | ...... |
| 25 | −0·84 | +1·15 | +0·31 | ...... |
| 26 | −0·83 | ...... | ...... | ...... |
| 27 | −0·84 | ...... | ...... | ...... |
| 28 | −0·85 | ...... | ...... | ...... |
| 29 | −0·83 | ...... | ...... | ...... |
| | | Mean | +0·336 | |
| 30 | −0·89 | +1·18 | +0·29 | West |
| Aug. 1 | −0·97 | ...... | ...... | ...... |
| 2 | −0·89 | ...... | ...... | ...... |
| 4 | −0·90 | ...... | ...... | ...... |
| 5 | −0·91 | +1·11 | +0·20 | ...... |
| 6 | −0·95 | +1·19 | +0·24 | ...... |
| 7 | −0·95 | +1·17 | +0·22 | ...... |
| 8 | −0·92 | +1·14 | +0·22 | ...... |
| 9 | −0·94 | +1·16 | +0·22 | ...... |
| 11 | −0·89 | +1·13 | +0·24 | ...... |
| 12 | −0·94 | +1·14 | +0·20 | ...... |
| 13 | −0·95 | +1·16 | +0·21 | ...... |
| 14 | −0·91 | +1·17 | +0·26 | ...... |
| 16 | −0·91 | ...... | ...... | ...... |
| 17 | −0·94 | ...... | ...... | ...... |
| 19 | −0·92 | +1·13 | +0·21 | ...... |
| | −0·94 | +1·20 | +0·26 | ...... |
| 21 | −0·97 | +1·20 | +0·23 | ...... |
| 23 | −1·01 | +1·20 | +0·19 | ...... |
| 24 | −0·98 | ...... | ...... | ...... |
| 25 | −1·00 | +1·23 | +0·23 | ...... |
| 26 | −1·01 | ...... | ...... | ...... |
| 27 | −1·04 | ...... | ...... | ...... |
| 29 | −0·98 | +1·29 | +0·31 | ...... |
| Sept. 1 | −1·05 | +1·28 | +0·23 | ...... |
| 6 | −1·08 | ...... | ...... | ...... |
| 8 | −1·00 | ...... | ...... | ...... |
| 10 | −1·02 | ...... | ...... | ...... |
| 13 | −1·06 | +1·31 | +0·25 | ...... |
| 17 | −0·98 | ...... | ...... | ...... |
| 18 | −1·04 | +1·25 | +0·21 | ...... |
| 19 | −1·01 | ...... | ...... | ...... |

| Date. | Wire III. East of | | Sum. | Illuminated End of Axis. |
|---|---|---|---|---|
| | North Mark. | South Mark. | | |
| 1842. | s. | s. | s. | |
| Sept. 20 | −1·04 | ...... | ...... | West |
| 21 | −1·07 | ...... | ...... | ...... |
| | | Mean | +0·233 | |
| 22 | −1·07 | ...... | ...... | East |
| 23 | −1·06 | +1·37 | +0·31 | ...... |
| 25 | −1·04 | +1·35 | +0·31 | ...... |
| 26 | −1·07 | +1·39 | +0·32 | ...... |
| 27 | −1·11 | +1·39 | +0·28 | ...... |
| 28 | −1·19 | +1·46 | +0·27 | ...... |
| 29 | −1·20 | +1·46 | +0·26 | ...... |
| 30 | −1·18 | ...... | ...... | ...... |
| Oct. 4 | −1·28 | ...... | ...... | ...... |
| 5 | −1·24 | ...... | ...... | ...... |
| 6 | −1·22 | ...... | ...... | ...... |
| 7 | −1·20 | ...... | ...... | ...... |
| 10 | −1·12 | +1·43 | +0·31 | ...... |
| 11 | −1·09 | ...... | ...... | ...... |
| 13 | −1·12 | ...... | ...... | ...... |
| 14 | −1·14 | ...... | ...... | ...... |
| 15 | −1·11 | ...... | ...... | ...... |
| 18 | −1·21 | ...... | ...... | ...... |
| 19 | −1·32 | ...... | ...... | ...... |
| 20 | −1·39 | ...... | ...... | ...... |
| 22 | −1·40 | +1·67 | +0·27 | ...... |
| 24 | −1·40 | ...... | ...... | ...... |
| 25 | −1·52 | +1·81 | +0·29 | ...... |
| 26 | −1·45 | +1·71 | +0·26 | ...... |
| 27 | −1·42 | +1·69 | +0·27 | ...... |
| 28 | −1·36 | ...... | ...... | ...... |
| 31 | −1·27 | +1·55 | +0·28 | ..... |
| Nov. 2 | −1·17 | +1·44 | +0·27 | ...... |
| 3 | −1·20 | +1·46 | +0·26 | ...... |
| 1842. | s. | s. | s. | |
| Nov. 4 | −1·24 | +1·50 | +0·26 | East |
| 9 | −1·19 | +1·45 | +0·26 | ...... |
| 10 | −1·23 | ...... | ...... | ...... |
| 14 | −1·23 | ...... | ...... | ...... |
| | −1·33 | +1·60 | +0·27 | ...... |
| 15 | −1·38 | +1·62 | +0·24 | ...... |
| | | Mean | +0·277 | |
| 16 | −1·36 | +1·64 | +0·28 | West |
| 24 | −1·41 | +1·70 | +0·29 | ...... |
| Dec. 10 | −1·04 | ...... | ...... | ...... |
| 11 | −1·06 | ...... | ...... | ...... |
| 13 | −1·06 | +1·32 | +0·26 | ...... |
| 15 | −0·98 | +1·26 | +0·28 | ...... |
| 17 | −0·96 | +1·24 | +0·28 | ...... |
| 18 | −1·01 | +1·30 | +0·29 | ...... |
| 19 | −1·06 | +1·37 | +0·31 | ...... |
| 20 | −1·05 | ...... | ...... | ...... |
| 23 | −1·03 | ...... | ...... | ...... |
| 24 | −1·15 | ...... | ...... | ...... |
| 25 | −1·20 | +1·47 | +0·27 | ...... |
| 26 | −1·14 | ...... | ...... | ...... |
| 29 | −1·25 | +1·55 | +0·30 | ...... |
| 30 | −1·20 | +1·51 | +0·31 | ...... |
| 1843. | | | | |
| Jan. 4 | −1·34 | ...... | ...... | ...... |
| 10 | −1·43 | ...... | ...... | ...... |
| 27 | −1·09 | +1·36 | +0·27 | ...... |
| Feb. 1 | −1·11 | +1·37 | +0·26 | ...... |
| 9 | −1·36 | ...... | ...... | ...... |
| 10 | −1·43 | ...... | ...... | ...... |
| | | Mean | +0·283 | |

Hence the error of collimation of Wire III. is obtained, and to that quantity, increased by $0^{s}{\cdot}009$ for the distance of Wire III. from the mean of the wires (the sign of the sum being changed in the eastern position of the illuminated end of the axis), there is applied $-0^{s}{\cdot}012$ for the diurnal aberration, to give the amount of collimation of the mean of the wires to be employed in reducing the observations.

## TABLE II.

### COLLIMATION.

| Date. | Position of Illuminated end of Axis. | $s + n$. | $s' + n'$. | $(s + n) - (s' + n')$, or, $4c$. | $c$. | Concluded $c$. | Collimation Error of the Mean of the Wires applied to the Observations. |
|---|---|---|---|---|---|---|---|
| 1842. | | s. | s. | s. | s. | s. | s. |
| January 1—Jan. 3 .... | E. | | −0·192 | | | +·003 | −0·02 |
| | | | | +·008 | +·002 | | |
| Jan. 4—Feb. 16, 23h 10m S.T. ............ | W. | +0·200 | | | | +·002 | 0·00 |
| | | | | | +·002 | | |
| Feb. 16, at 23h 50m S.T.—Apr. 8, at 3h S.T. .............. | E. | | −0·259 | | | +·002 | −0·02 |
| | | | | +·009 | +·002 | | |
| | | | | | | −·008 | −0·01 |
| April 8, at 4h S.T.—June 11, at 10h S.T. ................ | W. | +0·268 | | | | | |
| | | | | −·068 | −·017 | | |
| June 11, at 11h S.T.—July 29 ......... | E. | | −0·336 | | | −·022 | 0·00 |
| | | | | −·103 | −·026 | | |
| July 30—Sept. 22. .... | W. | +0·233 | | | | −·019 | −0·02 |
| | | | | −·044 | −0·11 | | |
| Sept. 26—Nov. 15. .... | E. | | −0·277 | | | −·005 | −0·02 |
| | | | | +·006 | +·002 | | |
| Nov. 16 (1842)—Feb. 10 (1843) .... | W. | +0·283 | | | | +·002 | 0·00 |

The correction to the observed time of each Transit is,

$$\text{collimation error} \times \frac{1}{\text{sin North Polar Distance.}}$$

The correction is positive for a Star above the Pole, when the object-glass deviates to the east of the meridian ; the N.P.D. being considered negative when the Star passes below the Pole.

### THE LEVEL ERROR.

There were 13 applications of the Level to the Transit axis in the course of the year, and readings of Thermometer No. 5 were taken almost every day. The Level Errors have therefore been found in the manner described in Vol. VII., *i.e.*, by assuming in the equation, level error $= 0^s{\cdot}01 \times (\tau - \text{temperature observed})$, such a value of $\tau$, on each day of the application of the level, as should make the thermometer give the same amount of inclination of the axis as the spirit-level : and for intervals between these epochs $\tau$ was made to vary as the time.

The following Table contains the observations of the level, the readings of the thermometer, and the level errors thus computed.

## TABLE III.

LEVEL ERROR, SIGN + SHEWS THAT THE WEST END OF THE AXIS IS TOO HIGH.

| Date. | Level Error observed. | Therm. No. 5. | Level Error computed. | Date. | Level Error observed. | Therm. No. 5. | Level Error computed. |
|---|---|---|---|---|---|---|---|
| 1842. | s. | ° | s. | 1842. | s. | ° | s. |
| Jan. 1 | | 41·0 | +0·07 | Mar. 7 | | 41·1 | + ·04 |
| 3 | | 36·2 | + ·12 | 8 | | 39·8 | + ·05 |
| 4 | | 34·7 | + ·13 | 9 | | 36·3 | + ·08 |
| 5 | | 32·5 | + ·15 | 10 | | 35·8 | + ·08 |
| 6 | | 33·0 | + ·15 | 11 | | 39·9 | + ·04 |
| 7 | | 32·0 | + ·16 | 12 | | 39·5 | + ·04 |
| 8 | | 32·8 | + ·15 | 14 | | 41·7 | + ·02 |
| 11 | | 31·5 | + ·16 | 15 | | 46·0 | − ·03 |
| 12 | | 31·6 | + ·16 | 16 | | 46·1 | − ·03 |
| 15 | +0·163 | 31·4 | + ·16 | 17 | | 42·2 | + ·01 |
| 17 | | 32·4 | + ·16 | 18 | | 39·9 | + ·03 |
| 18 | | 34·0 | + ·14 | 19 | | 37·7 | + ·05 |
| 19 | | 37·3 | + ·11 | 21 | | 35·9 | + ·06 |
| 22 | | 34·4 | + ·14 | 22 | | 37·0 | + ·05 |
| 24 | | 32·0 | + ·16 | 24 | | 41·5 | ·00 |
| 25 | | 33·8 | + ·14 | 26 | | 37·1 | + ·05 |
| 26 | | 32·7 | + ·15 | 28 | | 44·2 | − ·03 |
| 27 | | 34·6 | + ·13 | 29 | | 41·1 | ·00 |
| 28 | | 34·5 | + ·13 | 30 | | 42·3 | − ·01 |
| 29 | | 34·5 | + ·13 | 31 | | 42·3 | − ·01 |
| 31 | | 37·0 | + ·11 | Apr. 2 | | 36·8 | + ·04 |
| Feb. 1 | | 36·5 | + ·11 | 4 | +0·002 | 39·5 | ·00 |
| 2 | | 38·2 | + ·10 | 5 | | 42·1 | − ·02 |
| 3 | | 38·2 | + ·10 | 6 | | 42·8 | − ·03 |
| 4 | | 38·7 | + ·09 | 7 | | 41·6 | − ·02 |
| 5 | | 37·5 | + ·10 | 8 | | 42·2 | − ·02 |
| 7 | | 31·6 | + ·16 | 9 | | 43·0 | − ·03 |
| 8 | | 33·0 | + ·15 | 11 | | 45·8 | − ·05 |
| 9 | | 34·1 | + ·14 | 13 | | 41·2 | ·00 |
| 10 | | 39·4 | + ·09 | 15 | | 40·9 | ·00 |
| 11 | | 42·6 | + ·05 | 16 | | 43·1 | − ·02 |
| 12 | +0·076 | 40·7 | + ·08 | 18 | | 46·0 | − ·04 |
| 14 | | 36·5 | + ·11 | 20 | | 49·8 | − ·08 |
| 15 | | 40·6 | + ·07 | 21 | | 49·4 | − ·06 |
| 16 | | 38·8 | + ·09 | 22 | | 50·4 | − ·07 |
| 18 | | 39·8 | + ·07 | 23 | | 49·0 | − ·06 |
| 19 | | 40·7 | + ·06 | 25 | | 46·6 | − ·03 |
| 20 | | 37·8 | + ·10 | 26 | | 49·4 | − ·05 |
| 21 | | 37·0 | + ·10 | 27 | | 48·7 | − ·05 |
| 23 | | 38·4 | + ·08 | 28 | | 47·5 | − ·04 |
| 24 | | 36·1 | + ·10 | 29 | | 49·4 | − ·04 |
| 25 | | 35·9 | + ·10 | May 2 | | 48·8 | − ·04 |
| 26 | | 34·7 | + ·11 | 3 | −0·051 | 50·7 | − ·05 |
| Mar. 1 | | 37·1 | + ·08 | 4 | | 50·1 | − ·05 |
| 2 | | 35·6 | + ·09 | 5 | | 50·4 | − ·05 |
| 3 | | 36·4 | + ·09 | 6 | | 50·0 | − ·05 |
| 4 | | 37·3 | + ·08 | 7 | | 47·6 | − ·03 |
| 5 | +0·065 | 38·4 | + ·07 | 12 | | 46·7 | − ·02 |

| Date. | Level error observed. | Therm. No. 5. | Level Error computed. | Date. | Level Error observed. | Therm. No. 5. | Level Error computed. |
|---|---|---|---|---|---|---|---|
| 1842. | s. | ° | s. | 1842. | s. | ° | s. |
| May 17 | | 50·2 | − ·05 | Aug. 11 | | 56·4 | − ·09 |
| 21 | | 48·6 | − ·03 | 13 | | 61·8 | − ·15 |
| 23 | | 49·2 | − ·04 | 15 | | 62·1 | − ·15 |
| 25 | | 50·7 | − ·06 | 16 | | 57·6 | − ·11 |
| 27 | | 52·2 | − ·07 | 17 | | 60·2 | − ·13 |
| 28 | | 51·4 | − ·06 | 18 | | 62·2 | − ·14 |
| 30 | | 51·8 | − ·07 | 19 | | 60·8 | − ·13 |
| 31 | | 52·6 | − ·08 | 20 | | 58·3 | − ·10 |
| June 1 | | 51·8 | − ·07 | 22 | | 56·9 | − ·09 |
| 2 | | 51·5 | − ·07 | 23 | −0·114 | 59·4 | − ·11 |
| 3 | | 50·8 | − ·06 | 24 | | 56·8 | − ·09 |
| 6 | | 55·8 | − ·11 | 25 | | 56·3 | − ·08 |
| 7 | | 56·1 | − ·11 | 26 | | 56·7 | − ·09 |
| 8 | | 57·9 | − ·13 | 27 | | 58·3 | − ·10 |
| 9 | | 57·3 | − ·12 | 29 | | 59·8 | − ·11 |
| 10 | −0·112 | 56·6 | − ·11 | 30 | | 56·2 | − ·07 |
| 11 | | 57·9 | − ·13 | 31 | | 54·7 | − ·06 |
| 13 | | 60·2 | − ·15 | Sept. 6 | | 55·5 | − ·06 |
| 14 | | 61·0 | − ·16 | 8 | | 55·5 | − ·05 |
| 15 | | 58·5 | − ·14 | 9 | | 57·4 | − ·06 |
| 17 | | 55·3 | − ·11 | 13 | | 57·6 | − ·06 |
| 18 | | 56·9 | − ·13 | 14 | | 59·8 | − ·08 |
| 21 | | 57·6 | − ·14 | 15 | | 59·1 | − ·07 |
| 23 | | 57·0 | − ·14 | 16 | | 59·1 | − ·07 |
| 24 | | 56·4 | − ·13 | 17 | −0·045 | 56·4 | − ·04 |
| 25 | | 55·7 | − ·13 | 19 | | 52·0 | ·00 |
| 27 | | 55·9 | − ·13 | 20 | | 54·8 | − ·03 |
| 28 | | 54·5 | − ·12 | 21 | | 52·0 | ·00 |
| 29 | | 53·9 | − ·12 | 26 | | 49·2 | + ·02 |
| July 1 | | 55·3 | − ·13 | 27 | | 49·5 | + ·01 |
| 4 | | 56·8 | − ·15 | 28 | | 47·0 | + ·03 |
| 6 | | 52·7 | − ·12 | 29 | | 48·2 | + ·02 |
| 7 | | 52·7 | − ·12 | 30 | | 49·2 | ·00 |
| 8 | | 53·9 | − ·13 | Oct. 1 | | 48·4 | + ·01 |
| 12 | | 56·0 | − ·16 | 3 | | 47·2 | + ·01 |
| 13 | −0·169 | 56·8 | − ·17 | 4 | | 44·4 | + ·04 |
| 14 | | 53·9 | − ·14 | 5 | | 48·1 | − ·01 |
| 15 | | 55·6 | − ·15 | 6 | | 48·4 | − ·01 |
| 16 | | 58·5 | − ·17 | 7 | | 50·1 | − ·03 |
| 19 | | 55·0 | − ·12 | 8 | | 49·0 | − ·02 |
| 20 | | 54·6 | − ·12 | 10 | | 50·4 | − ·04 |
| 21 | | 57·9 | − ·14 | 11 | | 52·9 | − ·07 |
| 22 | | 57·0 | − ·13 | 12 | | 49·2 | − ·04 |
| 23 | | 59·4 | − ·14 | 13 | | 47·2 | − ·02 |
| 25 | | 58·8 | − ·14 | 14 | | 50·3 | − ·06 |
| 26 | | 59·3 | − ·14 | 15 | | 50·8 | − ·07 |
| 27 | −0·138 | 58·8 | − ·14 | 17 | | 49·6 | − ·07 |
| 28 | | 59·4 | − ·14 | 18 | | 45·6 | − ·04 |
| 29 | | 55·4 | − ·10 | 19 | | 41·7 | − ·01 |
| 30 | | 57·7 | − ·13 | 20 | +0·011 | 40·1 | + ·01 |
| Aug. 1 | | 62·2 | − ·16 | 21 | | 39·5 | + ·01 |
| 2 | | 62·2 | − ·16 | 22 | | 43·7 | − ·03 |
| 3 | | 62·0 | − ·16 | 24 | | 37·9 | + ·04 |
| 4 | | 58·6 | − ·13 | 25 | | 35·4 | + ·07 |
| 5 | | 63·6 | − ·17 | 26 | | 35·2 | + ·08 |
| 6 | | 58·9 | − ·13 | 27 | | 38·6 | + ·04 |
| 9 | | 60·9 | − ·13 | 28 | | 40·1 | + ·04 |

| Date. | Level Error observed. | Therm. No 5. | Level Error computed. | Date. | Level Error observed. | Therm. No. 5. | Level Error computed. |
|---|---|---|---|---|---|---|---|
| 1842. | s. | ° | s. | 1842. | s. | ° | s. |
| Oct. 29 | | 39·4 | + ·04 | Dec. 2 | | 47·1 | + ·04 |
| 31 | | 44·2 | + ·01 | 3 | | 45·9 | + ·05 |
| Nov. 1 | | 48·2 | − ·02 | 6 | | 43·0 | + ·08 |
| 3 | | 43·6 | + ·04 | 8 | | 45·3 | + ·06 |
| 4 | | 41·2 | + ·07 | 9 | +0·078 | 43·4 | + ·08 |
| 5 | | 39·3 | + ·09 | 10 | | 42·7 | + ·08 |
| 7 | | 40·2 | + ·09 | 12 | | 43·3 | + ·08 |
| 8 | | 42·6 | + ·06 | 13 | | 49·0 | + ·02 |
| 9 | | 45·2 | + ·04 | 16 | | 46·9 | + ·03 |
| 11 | +0·085 | 40·7 | + ·08 | 17 | | 41·5 | + ·08 |
| 12 | | 41·8 | + ·07 | 20 | | 44·3 | + ·05 |
| 14 | | 37·5 | + ·12 | 21 | | 45·0 | + ·04 |
| 15 | | 34·9 | + ·15 | 22 | | 46·1 | + ·03 |
| 18 | | 38·0 | + ·12 | 23 | | 38·4 | + ·11 |
| 19 | | 38·5 | + ·11 | 24 | | 36·6 | + ·12 |
| 21 | | 35·1 | + ·15 | 26 | | 41·5 | + ·06 |
| 23 | | 34·4 | + ·16 | 27 | | 38·4 | + ·10 |
| 24 | | 36·4 | + ·14 | 28 | | 36·2 | + ·12 |
| 25 | | 38·7 | + ·11 | 29 | | 43·0 | + ·05 |
| 28 | | 40·2 | + ·11 | 30 | | 47·0 | + ·01 |
| 29 | | 40·3 | + ·11 | 31 | | 45·8 | + ·02 |
| 30 | | 39·9 | + ·11 | 1843. | | | |
| Dec. 1 | | 43·2 | + ·08 | Feb. 6 | +0·128 | 30·8 | |

The numerical correction to the observed transits is

$$\text{Error of Level adopted} \times \frac{\cos \text{ Zen. Dist. South,}}{\sin \text{ North Polar Dist.}}$$

The sign is positive for a Star above the Pole, when the western end of the axis is higher than the other.

## THE AZIMUTHAL ERROR.

Of the three usual methods of determining the azimuthal position of the instrument, viz., by a Polar star combined with an equatorial star, by two successive transits of a Polar star above and below the Pole, or by three such consecutive transits, the first plan has alone been adopted; for although the two latter have the eminent advantage of being independent of the Right Ascension assumed for the star, yet they can only be employed with safety when the stability of the instrument can be depended upon through the twelve or twenty-four hours during which the observations extend; and that such is not the condition of the Edinburgh Transit Instrument, the temperature fluctuations described in the last volume, pp. 86–109, sufficiently attest.

Observations either of $\alpha$ Ursæ Minoris or of $\delta$ Ursæ Minoris, or of both of them, were taken almost every day during the year 1842, when there were any observations at all obtained, and have been computed by the formula

$$\text{Azimuthal error} = \frac{\text{AR 1st} \ast - \text{AR 2d} \ast - (\text{obs. tr. 1st} \ast - \text{obs. tr. 2d} \ast) - \text{clock's loss in the inter.}}{\left(\frac{\sin \text{Z.D South}}{\sin \text{N.P.D.}} \text{ 1st} \ast\right) - \left(\frac{\sin \text{Z.D. South}}{\sin \text{N.P.D.}} \text{ 2d} \ast\right)}$$

Some transits of one of the stars observed on only one or two wires have been passed over without notice, when there was a better observation of the other star on the same day. $\alpha$ Ursæ Minoris has always been preferred to $\delta$ Ursæ Minoris, unless the latter had at least twice as many wires as the former. When perfect transits of both were obtained on the same day, or consecutive transits above and below the Pole of either of them, the azimuth has been deduced independently from each.

The results are entered in the following Table, specifying the stars employed on each day, the number of wires of the Polar star (the equatorial star had almost invariably five), and the approximate Solar time of its transit; as both these circumstances were taken into consideration in determining the amount of error to be adopted in the reductions for each night. No special examination of the daily amount of the azimuthal error with the temperature observed has been instituted, because it was considered that the cause of the fluctuations had been undeniably traced up to its source last year; and a cursory comparison of the observations of 1842 exhibits exactly the same features as those of 1841; while, that the deviation is really in Azimuth, and not in Collimation or in Level, is satisfactorily proved by the observations of the Meridian marks (pp. 110–112). There is only one day, viz., July 16th, when there is any notable departure from the law of temperature, and on that occasion it is so large and sudden, and existed for so small a space of time, that it looks more like some violent handling of the instrument, than any natural cause.

## TABLE IV.

### THE AZIMUTHAL ERROR AS COMPUTED BY THE POLAR STARS.

| Date. | Names of Stars employed. | Polar Star. | | Azimuthal Error. |
|---|---|---|---|---|
| | | No. of Wires. | Ap. Sol. time of transit. | |
| 1842. | | | h. | s. |
| Jan. 2 | $\delta$ Ursæ Minoris and $\gamma$ Aquilæ····· | 3 | 23 | +0·55 |
| 4 | $\gamma$ Pegasi and $\alpha$ Ursæ Minoris····· | 4 | 6 | +0·77 |
| 6 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 5 | 6 | +0·83 |
| | $\delta$ Ursæ Minoris and $\epsilon$ Pegasi······ | 5 | 23 | +0·86 |
| 7 | $\alpha$ Ursæ Minoris and $\theta^1$ Ceti········ | 4 | 6 | +0·98 |
| 11 | $\delta$ Ursæ Minoris and $\alpha$ Lyræ ······ | 5 | 23 | +0·79 |
| 12 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 5 | 6 | +1·03 |
| 15 | $\iota$ Piscium and $\alpha$ Ursæ Minoris ···· | 4 | 6 | +0·98 |
| | $\alpha$ Tauri and $\delta$ Ursæ Minoris S.P. | 4 | 11 | +1·11 |
| 17 | $\iota$ Piscium and $\alpha$ Ursæ Minoris ···· | 5 | 5 | +0·95 |
| | $\alpha$ Tauri and $\delta$ Ursæ Minoris S.P. | 5 | 10 | +0·97 |
| 18 | $\alpha$ Ursæ Minoris and $\theta^1$ Ceti········ | 4 | 5 | +0·95 |
| 19 | $\gamma$ Pegasi and $\alpha$ Ursæ Minoris······ | 5 | 5 | +0·81 |
| 20 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 4 | 5 | +0·86 |
| 24 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.··· | 4 | 10 | +0·94 |
| | $\delta$ Ursæ Minoris and $\alpha$ Lyræ ······ | 5 | 22 | +0·85 |
| 25 | $\alpha$ Pegasi and $\alpha$ Ursæ Minoris ···· | 5 | 5 | +0·93 |
| | $\delta$ Ursæ Minoris and $\delta$ Geminorum | 3 | 10 | +0·89 |
| 27 | $\alpha$ Pegasi and $\alpha$ Ursæ Minoris······ | 5 | 5 | +0·84 |
| | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.··· | 3 | 10 | +0·93 |
| 28 | $\alpha$ Pegasi and $\alpha$ Ursæ Minoris······ | 5 | 4 | +0·89 |
| 29 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 4 | 4 | +0·90 |
| | $\alpha$ Orionis and $\delta$ Ursæ Minoris S.P. | 3 | 9 | +0·95 |
| 31 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.·· | 3 | 9 | +0·88 |
| Feb. 1 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.··· | 5 | 9 | +0·79 |
| 2 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 5 | 4 | +0·77 |
| 3 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 5 | 4 | +0·76 |
| 4 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.··· | 4 | 9 | +0·78 |
| 5 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min. ·· | 4 | 4 | +0·76 |
| 8 | $\alpha$ Pegasi and $\alpha$ Ursæ Minoris ···· | 4 | 4 | +0·85 |
| 10 | $\gamma$ Pegasi and $\alpha$ Ursæ Minoris······ | 5 | 3 | +0·75 |
| 11 | $\alpha$ Ursæ Minoris and $\beta$ Orionis ···· | 5 | 3 | +0·71 |
| 12 | $\alpha$ Ursæ Minoris and $\gamma$ Ceti ········ | 3 | 3 | +0·72 |
| 15 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 3 | 3 | +0·64 |
| 16 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 5 | 3 | +0·56 |
| 19 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min. · | 5 | 3 | +0·54 |
| 21 | $\alpha$ Ursæ Minoris and $\delta$ Orionis ···· | 5 | 3 | +0·62 |
| 24 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min.·· | 5 | 3 | +0·60 |
| 25 | $\beta$ Orionis and $\delta$ Ursæ Min. S.P.··· | 4 | 8 | +0·73 |
| 26 | $\beta$ Orionis and $\delta$ Ursæ Min. S.P.··· | 4 | 8 | +0·77 |
| Mar. 1 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min. | 5 | 2 | +0·68 |
| 2 | $\delta$ Ursæ Min. S.P. and $\delta$ Gemin.··· | 3 | 7 | +0·72 |
| 4 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 4 | 2 | +0·69 |
| 8 | $\epsilon$ Orionis and $\delta$ Ursæ Minoris S.P. | 4 | 7 | +0·65 |
| 9 | $\delta$ Ursæ Min. S.P. and $\delta$ Gemin.··· | 4 | 7 | +0·69 |
| 10 | $\delta$ Ursæ Min. S.P. and $\delta$ Gemin. ··· | 4 | 7 | +0·76 |
| 18 | $\delta$ Ursæ Minoris S.P. and $\epsilon$ Hydræ | 4 | 6 | +0·42 |
| 19 | $\delta$ Ursæ Minoris S.P. and $\epsilon$ Hydræ | 4 | 6 | +0·55 |
| 21 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.··· | 5 | 6 | +0·63 |
| 24 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis ···· | 5 | 1 | +0·68 |
| 26 | $\delta$ Ursæ Min. S.P. and $\beta$ Gemin.··· | 5 | 6 | +0·67 |
| | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 4 | 12 | +0·63 |
| 31 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 4 | 1 | +0·44 |
| 1842. | | | h. | s. |
| Apr. 2 | $\mu$ Gemin. and $\delta$ Ursæ Min. S.P.·· | 5 | 5 | +0·57 |
| 5 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 5 | 0 | +0·60 |
| 6 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 4 | 0 | +0·48 |
| 8 | $\mu$ Gemin. and $\delta$ Ursæ Minoris S.P. | 5 | 5 | +0·53 |
| 9 | $\delta$ Ursæ Min. S.P. and $\alpha$ Can. Maj. | 5 | 5 | +0·50 |
| 10 | $\gamma$ Pegasi and $\alpha$ Ursæ Minoris······ | 4 | 24 | +0·49 |
| 11 | $\delta$ Ursæ Min. S.P. and $\alpha$ Canis Maj. | 5 | 5 | +0·43 |
| 12 | $\delta$ Ursæ Min. S.P. and $\alpha^2$ Gemin.··· | 4 | 5 | +0·46 |
| 15 | $\alpha$ Ursæ Minoris and $\beta$ Tauri ······ | 5 | 23 | +0·59 |
| 16 | $\beta$ Leonis and $\alpha$ Ursæ Minoris S.P. | 5 | 11 | +0·57 |
| 17 | $\delta$ Ursæ Min. S.P. and $\alpha$ Can. Maj. | 5 | 5 | +0·59 |
| 18 | $\epsilon$ Hydræ and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·40 |
| 19 | $\alpha$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·46 |
| | $\alpha$ Leonis and $\alpha$ Ursæ Minoris······ | 5 | 23 | +0·35 |
| 20 | $\delta$ Ursæ Min. S.P. and $\alpha^2$ Gemin.·· | 5 | 4 | +0·48 |
| | $\alpha$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·34 |
| | $\alpha$ Leonis and $\alpha$ Ursæ Minoris······ | 4 | 23 | +0·28 |
| 21 | $\alpha$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·38 |
| | $\alpha$ Leonis and $\alpha$ Ursæ Minoris······ | 4 | 23 | +0·35 |
| 22 | $\alpha$ Leonis and $\alpha$ Ursæ Minoris S.P. | 3 | 11 | +0·41 |
| | $\alpha$ Leonis and $\alpha$ Ursæ Minoris······ | 4 | 23 | +0·30 |
| 25 | $\beta$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·31 |
| | $\beta$ Leonis and $\alpha$ Ursæ Minoris····· | 4 | 23 | +0·31 |
| 26 | $\beta$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·36 |
| | $\beta$ Leonis and $\alpha$ Ursæ Minoris······ | 5 | 23 | +0·41 |
| 27 | $\alpha$ Orionis and $\delta$ Ursæ Min. S.P.··· | 5 | 4 | +0·33 |
| 28 | $\delta$ Hyd. et Crat. & $\alpha$ Urs. Min. S.P. | 4 | 11 | +0·37 |
| 29 | $\beta$ Leonis and $\alpha$ Ursæ Minoris S.P. | 4 | 11 | +0·56 |
| May 1 | $\alpha$ Aquarii and $\alpha$ Ursæ Minoris···· | 5 | 22 | +0·39 |
| 2 | $\delta$ Hyd. et Crat. & $\alpha$ Urs. Min. S.P. | 4 | 10 | +0·35 |
| 5 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 4 | 10 | +0·36 |
| 6 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 10 | +0·31 |
| 7 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 10 | +0·34 |
| 12 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 3 | 10 | +0·31 |
| 21 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 4 | 9 | +0·34 |
| 27 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 9 | +0·16 |
| 28 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 4 | 9 | +0·28 |
| 30 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 9 | +0·28 |
| 31 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 9 | +0·26 |
| June 1 | $\alpha$ Andromedæ and $\alpha$ Ursæ Min. | 3 | 21 | +0·22 |
| 2 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 9 | +0·34 |
| 3 | $\alpha$ Ursæ Minoris S.P. and $\eta$ Bootis | 2 | 8 | +0·36 |
| | $\eta$ Bootis and $\alpha$ Ursæ Minoris ······ | 5 | 20 | +0·36 |
| 6 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 8 | +0·11 |
| 7 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 8 | +0·07 |
| 8 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 8 | +0·19 |
| 10 | $\beta$ Leonis and $\alpha$ Ursæ Min. S.P.··· | 1 | 8 | +0·11 |
| 11 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Virginis | 5 | 8 | +0·04 |
| 12 | $\alpha$ Ursæ Minoris and $\alpha$ Arietis····· | 5 | 20 | +0·09 |
| 13 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Bootis··· | 5 | 8 | +0·03 |
| 14 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Bootis··· | 3 | 8 | +0·03 |
| 18 | $\alpha$ Ursæ Min. S.P. and $\alpha$ Bootis··· | 4 | 7 | +0·18 |
| 23 | $\delta$ Ursæ Minoris and $\alpha$ Lyræ ······· | 4 | 12 | +0·18 |

| Date. | Names of Stars employed. | Polar Star. | | Azimuthal Error. |
|---|---|---|---|---|
| | | No. of Wires. | Ap. Sol. time of transit. | |
| 1842. | | | h. | s. |
| June 27 | α Ursæ Min. S.P. and ε Bootis···· | 4 | 7 | +0·18 |
| 28 | α Ursæ Min. S.P. and α Virginis | 3 | 7 | +0·13 |
| 29 | α Scorpii and δ Ursæ Minoris ····· | 3 | 11 | +0·22 |
| 30 | δ Ursæ Minoris and α Lyræ········ | 4 | 11 | +0·15 |
| July 4 | δ Ursæ Minoris and α Lyræ ······ | 3 | 11 | +0·23 |
| 6 | α Ursæ Min. S.P. and η Bootis ··· | 5 | 6 | +0·10 |
| 7 | δ Ursæ Minoris and α Lyræ········ | 4 | 11 | +0·22 |
| 8 | α Ursæ Minoris S.P. and α Lyræ | 2 | 6 | +0·16 |
| 12 | α Ursæ Min. S.P. and α Virginis | 5 | 6 | +0·13 |
| 13 | α Ursæ MinorisS.P and α Bootis | 5 | 6 | +0·13 |
| 14 | α Ursæ Minoris S.P. and η Bootis | 2 | 5 | +0·13 |
| 15 | α Ursæ Min. S.P. and α Virginis | 5 | 5 | +0·20 |
| 16 | α Ursæ Min. S.P. and α Virginis | 4 | 5 | −0·16 |
| | δ Ursæ Min. and α Cor. Borealis | 4 | 10 | +0·18 |
| 19 | α Ursæ Minoris S.P. and α Bootis | 4 | 5 | +0·15 |
| 21 | α Ursæ Min. S.P. and α Virginis | 5 | 5 | +0·16 |
| 22 | α Ursæ Min. S.P. and α Virginis | 5 | 5 | +0·19 |
| 23 | α Ursæ Min. S.P. and α Virginis | 5 | 5 | +0·31 |
| | δ Ursæ Minoris and β Lyræ ······· | 4 | 10 | +0·25 |
| 26 | α Urs. Min. S.P. & α Cor. Borealis | 2 | 5 | +0 19 |
| 27 | α Ursæ Minoris S.P. and α Bootis | 4 | 5 | +0·22 |
| 28 | α Ursæ Minoris S.P. and η Bootis | 3 | 5 | +0·19 |
| 29 | α Ursæ Minoris S.P. and ε Bootis | 3 | 5 | +0·25 |
| 30 | δ Ursæ Minoris and β Lyræ ······ | 4 | 9 | +0·34 |
| Aug. 1 | δ Ursæ Minoris and β Lyræ ······ | 5 | 9 | +0·28 |
| 2 | α Ursæ Min. S.P. and α Bootis ··· | 3 | 4 | +0·29 |
| 3 | δ Ursæ Min. and α Lyræ ·········· | 4 | 9 | +0·40 |
| 4 | α Ursæ Min. S.P. and α Virgin. | 5 | 4 | +0·26 |
| 5 | δ Ursæ Minoris and β Lyræ ······ | 4 | 9 | +0·24 |
| 6 | δ Ursæ Minoris and α Lyræ ······· | 3 | 9 | +0·38 |
| 9 | δ Ursæ Minoris and α Lyræ ······· | 4 | 9 | +0·32 |
| 11 | α Ursæ Min. S.P. and α Virgin. | 2 | 4 | +0·36 |
| 13 | δ Ursæ Minoris and β Lyræ ······ | 5 | 9 | +0·25 |
| 15 | δ Ursæ Minoris and γ Aquilæ ···· | 5 | 9 | +0·29 |
| 16 | α Ursæ Min. S.P. and α Lyræ ···· | 3 | 3 | +0·29 |
| 17 | α Ursæ Min. S.P. and α Lyræ ···· | 5 | 3 | +0·26 |
| 18 | α Ursæ Min. S.P. & $\alpha^2$ Capricorni | 3 | 3 | +0·35 |
| 20 | δ Ursæ Minoris and β Lyræ······· | 5 | 8 | +0·35 |
| 22 | α Ursæ Min. S.P. and α Serpent. | 4 | 3 | +0·50 |
| 24 | δ Ursæ Minoris and β Lyræ ······· | 4 | 8 | +0·48 |
| 25 | δ Ursæ Minoris and β Lyræ ······· | 4 | 8 | +0·60 |
| 27 | δ Ursæ Minoris and β Lyræ ······· | 3 | 8 | +0·47 |
| 30 | δ Ursæ Minoris and β Lyræ ······· | 5 | 8 | +0·47 |
| | ω Geminorum and δ Ur. Min. S.P. | 4 | 20 | +0·61 |
| 31 | α Ursæ Min. S.P. and β Lyræ ···· | 3 | 2 | +0·53 |
| Sept. 6 | α Ursæ Min. S.P. and α Bootis ·· | 4 | 2 | +0·52 |
| 9 | α Ophiuchi and δ Ursæ Minor. ··· | 3 | 7 | +0·48 |
| 12 | α Ursæ Min. S.P. and α Bootis ··· | 5 | 2 | +0·49 |
| 14 | δ Ursæ Minoris and α Pegasi ······ | 4 | 7 | +0·42 |
| 17 | δ Ursæ Minoris and β Lyræ ······ | 5 | 7 | +0·48 |
| 19 | δ Ursæ Minoris and α Lyræ ······· | 5 | 7 | +0·58 |
| 20 | δ Ursæ Minoris and α Lyræ ······· | 5 | 7 | +0·55 |
| 21 | α Ursæ Min. S.P. and α Bootis···· | 2 | 1 | +0·47 |
| 28 | α Ursæ Min. S.P. and ε Pegasi···· | 3 | 1 | +0·61 |
| 29 | δ Ursæ Minoris and α Lyræ······· | 4 | 6 | +0·67 |
| 30 | δ Ursæ Minoris and β Lyræ······· | 3 | 6 | +0·60 |
| 1842. | | | h. | s. |
| Oct. 4 | α Ursæ Min. S.P. and α Bootis···· | 5 | 1 | +0·66 |
| | δ Ursæ Minoris and α Lyræ ······· | 5 | 6 | +0·74 |
| 6 | δ Ursæ Minoris and α Lyræ ······· | 5 | 5 | +0·61 |
| 7 | δ Ursæ Minoris and β Lyræ ······· | (5) | 5 | +0·54 |
| 8 | α Ursæ Min. S.P. and α Bootis···· | 4 | 0 | +0·53 |
| 11 | δ Ursæ Minoris and β Lyræ ······· | 5 | 5 | +0·61 |
| 12 | α Ursæ Min. S.P. and α Bootis ··· | 4 | 24 | +0·44 |
| 13 | δ Ursæ Min. S.P. and α Bootis···· | 3 | 24 | +0·53 |
| 15 | δ Ursæ Minoris and β Lyræ ······· | 5 | 5 | +0·40 |
| 19 | α Ursæ Minoris and γ Pegasi ····· | 5 | 11 | +0·64 |
| 20 | α Aquarii and α Ursæ Minoris···· | 5 | 11 | +0·80 |
| 21 | α Ursæ Min. S.P. and α Bootis ··· | 4 | 23 | +0·77 |
| 22 | δ Ursæ Minoris and α Lyræ ······· | 5 | 4 | +0·68 |
| 23 | α Ursæ Min. S.P. and α Bootis ··· | 5 | 23 | +0·64 |
| 24 | α Aquarii and α Ursæ Minoris···· | 5 | 11 | +0·85 |
| 25 | γ Pegasi and α Ursæ Minoris······ | 5 | 11 | +1·01 |
| 26 | γ Pegasi and α Ursæ Minoris ····· | 4 | 11 | +0·89 |
| 27 | α Leonis and α Urs. Min. S.P. ···· | 5 | 23 | +0·77 |
| 28 | α Ursæ Minoris and ε Leonis······ | 5 | 11 | +0·82 |
| | ε Leonis and α Ursæ Minoris S.P. | 5 | 23 | +0·73 |
| 29 | β Aquarii and α Ursæ Minoris ··· | 3 | 11 | +0·82 |
| 31 | γ Pegasi and α Ursæ Minoris····· | 5 | 11 | +0·64 |
| Nov. 1 | δ Ursæ Minoris and α Lyræ ······· | 5 | 4 | +0·49 |
| 3 | δ Ursæ Minoris and α Lyræ······· | 5 | 4 | +0·50 |
| 4 | δ Ursæ Minoris and α Lyræ······· | 5 | 4 | +0·63 |
| | β Ceti and α Ursæ Minoris········· | 3 | 10 | +0·75 |
| 5 | α Ursæ Minoris and $\theta^1$ Ceti········ | 5 | 10 | +0·80 |
| 7 | γ Pegasi and α Ursæ Minoris ····· | 5 | 10 | +0·78 |
| 9 | β Aquarii and α Ursæ Minoris···· | 3 | 10 | +0·69 |
| | β Aquarii and Urs. Min. S.P.····· | 5 | 22 | +0·56 |
| 12 | γ Pegasi and α Ursæ Minoris····· | 3 | 10 | +0·64 |
| 13 | α Ursæ Min. S.P. and α Virginis | 5 | 22 | +0·55 |
| 14 | β Aquarii and α Ursæ Minoris···· | 5 | 10 | +0·78 |
| | β Aquarii and α Urs. Min. S.P.·· | 5 | 22 | +0·80 |
| 15 | δ Ursæ Minoris and γ Aquilæ····· | 3 | 3 | +0·79 |
| 18 | γ Pegasi and α Ursæ Minoris ····· | 4 | 10 | +0·93 |
| 20 | α Ursæ Min. S.P. and α Virginis· | 3 | 22 | +0·71 |
| 23 | γ Pegasi and α Ursæ Minoris ····· | 3 | 10 | +0·94 |
| 24 | β Ceti and α Ursæ Minoris ········ | 3 | 10 | +1·00 |
| 25 | γ Pegasi and α Ursæ Minoris····· | 2 | 10 | +0·89 |
| 29 | ζ Cygni and α Ursæ Minoris ······ | 4 | 10 | +0·82 |
| 30 | ι Piscium and α Ursæ Minoris ···· | 3 | 9 | +0·81 |
| Dec. 3 | α Ursæ Minoris and $\theta^1$ Ceti········ | 3 | 9 | +0·55 |
| 8 | α Pegasi and α Ursæ Minoris ····· | 2 | 8 | +0·45 |
| 10 | α Ursæ Minoris and α Arietis····· | 2 | 8 | +0·65 |
| 12 | γ Pegasi and α Ursæ Minoris ····· | 3 | 8 | +0·51 |
| 13 | α Ursæ Minoris and α Arietis····· | 2 | 8 | +0·40 |
| 16 | γ Pegasi and α Ursæ Minoris······ | 3 | 7 | +0·42 |
| 17 | δ Ursæ Minoris and α Lyræ······· | 5 | 1 | +0·31 |
| 18 | δ Ursæ Min. S.P. and α Can. Maj. | 5 | 13 | +0·49 |
| 22 | α Ursæ Minoris and $\theta^1$ Ceti········ | 3 | 7 | +0·36 |
| 23 | α Ursæ Minoris and $\theta^1$ Ceti········ | 3 | 7 | +0·41 |
| 24 | δ Ursæ Minoris and α Lyræ······· | 5 | 0 | +0·46 |
| 27 | α Ursæ Minoris and $\theta^1$ Ceti ········ | 3 | 7 | +0·69 |
| 29 | α Aquarii and α Ursæ Minoris···· | 4 | 6 | +0·64 |
| 31 | α Ursæ Minoris and $\theta^1$ Ceti ········ | 4 | 6 | +0·51 |

The numerical correction to the observed transits, is—

$$\text{Azimuthal error adopted} \times \frac{\text{sin Zenith distance, south}}{\text{sin north Polar distance}}$$

The sign is positive for a star above the Pole, and to the south of the Zenith, when the western end of the axis deviates to the south.

## TABLE V.

### ADOPTED INSTRUMENTAL CORRECTIONS FOR THE TRANSIT INSTRUMENT IN 1842.

| Date. | Collimation. | Level. | Azimuth. | Date. | Collimation. | Level. | Azimuth. |
|---|---|---|---|---|---|---|---|
| 1842. | s. | s. | s. | 1842. | s. | s. | s. |
| January 1 | −0·02 | +0·07 | +0·52 | February 20 | −0·02 | +0·10 | +0·60 |
| 2 | −0·02 | +0·10 | +0·58 | 21 | | +0·10 | +0·62 |
| 3 | −0·02 | +0·12 | +0·64 | 23 | | +0·08 | +0·60 |
| | | | | 24 | | +0·10 | +0·60 |
| 4 | 0·00 | +0·13 | +0·77 | 25 | | +0·10 | +0·73 |
| 5 | | +0·15 | +0·80 | 26 | | +0·11 | +0·77 |
| 6 | | +0·15 | +0·83 | March 1 | | +0·08 | +0·68 |
| 7 | | +0·16 | +0·98 | 2 | | +0·09 | +0·72 |
| 8 | | +0·15 | +0·79 | 3 | | +0·09 | +0·70 |
| 11 | | +0·16 | +0·83 | 4 | | +0·08 | +0·69 |
| 12 | | +0·16 | +1·03 | 7 | | +0·04 | +0·65 |
| 15 | | +0·16 | +1·05 | 8 | | +0·05 | +0·65 |
| 17 | | +0·16 | +0·96 | 9 | | +0·08 | +0·69 |
| 18 | | +0·14 | +0·95 | 10 | | +0·08 | +0·76 |
| 19 | | +0·11 | +0·81 | 11 | | +0·04 | +0·62 |
| 20 | | +0·12 | +0·86 | 12 | | +0·04 | +0·62 |
| 21 | | +0·13 | +0·87 | 14 | | +0·02 | +0·56 |
| 22 | | +0·14 | +0·88 | 15 | | −0·03 | +0·40 |
| 24 | | +0·16 | +0·90 | 16 | | −0·03 | +0·40 |
| 25 | | +0·14 | +0·91 | 17 | | +0·01 | +0·50 |
| 26 | | +0·15 | +0·89 | 18 | | +0·03 | +0·42 |
| 27 | | +0·13 | +0·89 | 19 | | +0·05 | +0·55 |
| 28 | | +0·13 | +0·89 | 21 | | +0·06 | +0·63 |
| 29 | | +0·13 | +0·92 | 22 | | +0·05 | +0·62 |
| 31 | | +0·11 | +0·88 | 24 | | +0·00 | +0·68 |
| February 1 | | +0·11 | +0·79 | 26 | | +0·05 | +0·65 |
| 2 | | +0·10 | +0·77 | 28 | | −0·03 | +0·45 |
| 3 | | +0·10 | +0·76 | 29 | | −0·00 | +0·50 |
| 4 | | +0·09 | +0·78 | 30 | | −0·01 | +0·48 |
| 5 | | +0·10 | +0·76 | 31 | | −0·01 | +0·44 |
| 6 | | +0·13 | +0·80 | April 2 | | +0·04 | +0·57 |
| 7 | | +0·16 | +0·85 | 3 | | +0·02 | +0·55 |
| 8 | | +0·15 | +0·85 | 4 | | +0·00 | +0·58 |
| 9 | | +0·14 | +0·80 | 5 | | −0·02 | +0·60 |
| 10 | | +0·09 | +0·75 | 6 | | −0·03 | +0·48 |
| 11 | | +0·05 | +0·71 | 7 | | −0·02 | +0·50 |
| 12 | | +0·08 | +0·72 | 8 at 3$^h$ S.T. | −0·02 | −0·02 | +0·53 |
| 14 | | +0·11 | +0·72 | | | | |
| 15 | | +0·07 | +0·64 | 8 at 4$^h$ S.T. | −0·01 | −0·02 | +0·53 |
| 16 at 23$^h$ 10$^m$ S.T. | 0·00 | +0·09 | +0·56 | 9 | | −0·03 | +0·50 |
| | | | | 10 | | −0·04 | +0·49 |
| 16 at 23$^h$ 50$^m$ S.T. | −0·02 | +0·09 | +0·56 | 11 | | −0·05 | +0·43 |
| 18 | | +0·07 | +0·55 | 12 | | −0·02 | +0·46 |
| 19 | | +0·06 | +0·54 | 13 | | 0·00 | +0·55 |

| Date. | Collimation. | Level. | Azimuth. |
|---|---|---|---|
| 1842. | s. | s. | s. |
| April 15 | −0·01 | −0·00 | +0·59 |
| 16 | | −0·02 | +0·57 |
| 17 | | −0·03 | +0·59 |
| 18 | | −0·04 | +0·40 |
| 19 | | −0·06 | +0·40 |
| 20 | | −0·08 | +0·36 |
| 21 | | −0·06 | +0·36 |
| 22 | | −0·07 | +0·35 |
| 23 | | −0·06 | +0·33 |
| 25 | | −0·03 | +0·31 |
| 26 | | −0·05 | +0·38 |
| 27 | | −0·05 | +0·33 |
| 28 | | −0·04 | +0·37 |
| 29 | | −0·04 | +0·56 |
| May 1 | | −0·04 | +0·39 |
| 2 | | −0·04 | +0·35 |
| 4 | | −0·05 | +0·36 |
| 5 | | −0·05 | +0·36 |
| 6 | | −0·05 | +0·31 |
| 7 | | −0·03 | +0·34 |
| 12 | | −0·02 | +0·31 |
| 15 | | −0·04 | +0·30 |
| 17 | | −0·05 | +0·28 |
| 21 | | −0·03 | +0·34 |
| 22 | | −0·03 | +0·32 |
| 23 | | −0·04 | +0·30 |
| 25 | | −0·06 | +0·25 |
| 27 | | −0·07 | +0·16 |
| 28 | | −0·06 | +0·28 |
| 30 | | −0·07 | +0·28 |
| 31 | | −0·08 | +0·26 |
| June 1 | | −0·07 | +0·22 |
| 2 | | −0·07 | +0·34 |
| 3 | | −0·06 | +0·36 |
| 6 | | −0·11 | +0·11 |
| 7 | | −0·11 | +0·07 |
| 8 | | −0·13 | +0·19 |
| 9 | | −0·12 | +0·15 |
| 10 | | −0·11 | +0·11 |
| 11 at 10h S.T. | −0·01 | −0·13 | +0·04 |
| 11 at 11h S.T. | 0·00 | −0·13 | +0·04 |
| 12 | | −0·14 | +0·09 |
| 13 | | −0·15 | +0·03 |
| 14 | | −0·16 | +0·03 |
| 15 | | −0·14 | +0·10 |
| 17 | | −0·11 | +0·18 |
| 18 | | −0·13 | +0·18 |
| 21 | | −0·14 | +0·18 |
| 22 | | −0·14 | +0·18 |
| 23 | | −0·14 | +0·18 |
| 24 | | −0·13 | +0·18 |
| 25 | | −0·13 | +0·18 |
| 27 | | −0·13 | +0·18 |
| 28 | | −0·12 | +0·13 |
| 29 | | −0·12 | +0·22 |
| 30 | | −0·12 | +0·15 |
| July 1 | | −0·13 | +0·20 |
| July 4 | 0·00 | −0·15 | +0·23 |
| 5 | | −0·14 | +0·20 |
| 6 | | −0·12 | +0·10 |
| 7 | | −0·12 | +0·22 |
| 8 | | −0·13 | +0·16 |
| 9 | | −0·14 | +0·15 |
| 12 | | −0·16 | +0·13 |
| 13 | | −0·17 | +0·13 |
| 14 | | −0·14 | +0·13 |
| 15 | | −0·15 | +0·20 |
| 16 | | −0·17 | −0·16<br>+0·18 |
| 19 | | −0·12 | +0·15 |
| 20 | | −0·12 | +0·15 |
| 21 | | −0.14 | +0·16 |
| 22 | | −0·13 | +0·19 |
| 23 | | −0·14 | +0·30 |
| 25 | | −0·14 | +0·25 |
| 26 | | −0·14 | +0·19 |
| 27 | | −0·14 | +0·22 |
| 28 | | −0·14 | +0·19 |
| 29 | 0·00 | −0·10 | +0·25 |
| 30 | −0·02 | −0·13 | +0·34 |
| 31 | | −0·14 | +0·30 |
| August 1 | | −0·16 | +0·28 |
| 2 | | −0·16 | +0·29 |
| 3 | | −0·16 | +0·40 |
| 4 | | −0·13 | +0·26 |
| 5 | | −0·17 | +0·24 |
| 6 | | −0·13 | +0·38 |
| 9 | | −0·13 | +0·32 |
| 11 | | −0·09 | +0·36 |
| 13 | | −0·15 | +0·25 |
| 14 | | −0·15 | +0·29 |
| 15 | | −0·15 | +0·29 |
| 16 | | −0·11 | +0·29 |
| 17 | | −0·13 | +0·26 |
| 18 | | −0·14 | +0·35 |
| 19 | | −0·13 | +0·35 |
| 20 | | −0·10 | +0·35 |
| 21 | | −0·10 | +0·40 |
| 22 | | −0·09 | +0·50 |
| 24 | | −0·09 | +0·48 |
| 25 | | −0·08 | +0·60 |
| 26 | | −0·09 | +0·50 |
| 27 | | −0·10 | +0·47 |
| 29 | | −0·11 | +0·47 |
| 30 | | −0·07 | +0·54 |
| 31 | | −0·06 | +0·53 |
| Sept. 3 | | −0·06 | +0·52 |
| 6 | | −0·06 | +0·52 |
| 8 | | −0·05 | +0·50 |
| 9 | | −0·06 | +0·48 |
| 10 | | −0·06 | +0·48 |
| 11 | | −0·06 | +0·48 |
| 12 | | −0·06 | +0·49 |
| 13 | | −0·06 | +0·45 |
| 14 | | −0·08 | +0·42 |

| Date. | | Collimation. | Level. | Azimuth. |
|---|---|---|---|---|
| 1842. | | s. | s. | s. |
| September | 15 | −0·02 | −0·07 | +0·43 |
| | 16 | | −0·07 | +0·44 |
| | 17 | | −0·04 | +0·48 |
| | 18 | | −0·02 | +0·50 |
| | 19 | | 0·00 | +0·58 |
| | 20 | | −0·03 | +0·55 |
| | 21 | −0·02 | 0·00 | +0·47 |
| | 26 | −0·02 | +0·02 | +0·60 |
| | 27 | | +0·01 | +0·60 |
| | 28 | | +0·03 | +0·61 |
| | 29 | | +0·02 | +0·67 |
| | 30 | | 0·00 | +0·60 |
| October | 1 | | +0·01 | +0·62 |
| | 3 | | +0·01 | +0·64 |
| | 4 | | +0·04 | +0·70 |
| | 5 | | −0·01 | +0·61 |
| | 6 | | −0·01 | +0·61 |
| | 7 | | −0·03 | +0·54 |
| | 8 | | −0·02 | +0·53 |
| | 10 | | −0·04 | +0·50 |
| | 11 | | −0·01 | +0·61 |
| | 12 | | −0·04 | +0·44 |
| | 13 | | −0·02 | +0·53 |
| | 14 | | −0·06 | +0·45 |
| | 15 | | −0·07 | +0·40 |
| | 17 | | −0·07 | +0·40 |
| | 18 | | −0·04 | +0·50 |
| | 19 | | −0·01 | +0·64 |
| | 20 | | +0·01 | +0·80 |
| | 21 | | +0·01 | +0·77 |
| | 22 | | −0·03 | +0·68 |
| | 23 | | 0·00 | +0·64 |
| | 24 | | +0·04 | +0·85 |
| | 25 | | +0·07 | +1·01 |
| | 26 | | +0·08 | +0·89 |
| | 27 | | +0·04 | +0·77 |
| | 28 | | +0·04 | +0·78 |
| | 29 | | +0·04 | +0·82 |
| | 31 | | +0·01 | +0·64 |
| November | 1 | | −0·02 | +0·49 |
| | 3 | | +0·04 | +0·50 |
| | 4 | | +0·07 | +0·70 |
| November | 5 | −0·02 | +0·09 | +0·80 |
| | 7 | | +0·09 | +0·78 |
| | 8 | | +0·06 | +0·65 |
| | 9 | | +0·04 | +0·62 |
| | 12 | | +0·07 | +0·64 |
| | 13 | | +0·10 | +0·55 |
| | 14 | | +0·12 | +0·79 |
| | 15 | −0·02 | +0·15 | +0·79 |
| | 18 | 0·00 | +0·12 | +0·93 |
| | 19 | | +0·11 | +0·80 |
| | 20 | | +0·13 | +0·71 |
| | 21 | | +0·15 | +0·80 |
| | 22 | | +0·15 | +0·85 |
| | 23 | | +0·16 | +0·94 |
| | 24 | | +0·14 | +1·00 |
| | 25 | | +0·11 | +0·89 |
| | 28 | | +0·11 | +0·86 |
| | 29 | | +0·11 | +0·82 |
| | 30 | | +0·11 | +0·81 |
| December | 1 | | +0·08 | +0·65 |
| | 2 | | +0·04 | +0·60 |
| | 3 | | +0·05 | +0·55 |
| | 6 | | +0·08 | +0·65 |
| | 8 | | +0·06 | +0·45 |
| | 10 | | +0·08 | +0·65 |
| | 12 | | +0·08 | +0·51 |
| | 13 | | +0·02 | +0·40 |
| | 16 | | +0·03 | +0·42 |
| | 17 | | +0·08 | +0·31 |
| | 18 | | +0·06 | +0·49 |
| | 20 | | +0·05 | +0·46 |
| | 21 | | +0·04 | +0·40 |
| | 22 | | +0·03 | +0·36 |
| | 23 | | +0·11 | +0·41 |
| | 24 | | +0·12 | +0·46 |
| | 26 | | +0·06 | +0·60 |
| | 27 | | +0·10 | +0·69 |
| | 28 | | +0·12 | +0·70 |
| | 29 | | +0·05 | +0·64 |
| | 30 | | +0·01 | +0·50 |
| | 31 | 0·00 | +0·02 | +0·51 |

## CORRECTION OF THE CLOCK.

For computing the errors of the Clock and the azimuthal errors of the Transit, the following Table of the Mean Right Ascensions of the principal Stars for January 1, 1842, has been employed, and is the same as that used for reducing the Greenwich Observations of the same year.

## TABLE VI.

| Star's Name. | Assumed Mean Right Ascension, January 1, 1842. | | | Correction to Nautical Almanac. | Star's Name. | Assumed Mean Right Ascension, January 1, 1842. | | | Correction to Nautical Almanac. |
|---|---|---|---|---|---|---|---|---|---|
| | h. | m. | s. | s. | | h. | m. | s. | s. |
| α Andromedæ | 0 | 0 | 13·91 | +0·05 | β Corvi | 12 | 26 | 5·92 | −0·05 |
| γ Pegasi | 0 | 5 | 6·35 | −0·05 | Spica | 13 | 16 | 52·63 | −0·02 |
| β Ceti | 0 | 35 | 39·33 | +0·05 | η Bootis | 13 | 47 | 9·70 | −0·03 |
| Polaris | 1 | 2 | 43·99 | +0·20 | Arcturus | 14 | 8 | 27·40 | −0·03 |
| θ¹ Ceti | 1 | 16 | 7·66 | 0·00 | ε Bootis | 14 | 38 | 5·21 | −0·04 |
| α Arictis | 1 | 58 | 16·80 | +0·09 | α Libræ | 14 | 42 | 8·91 | −0·01 |
| γ Ceti | 2 | 35 | 7·20 | −0·02 | β Libræ | 15 | 8 | 30·71 | −0·02 |
| α Ceti | 2 | 54 | 1·58 | −0·02 | α Coronæ Borealis | 15 | 27 | 59·98 | +0·06 |
| η Tauri | 3 | 38 | 6·26 | +0·03 | α Serpentis | 15 | 36 | 29·35 | +0·04 |
| γ Eridani | 3 | 50 | 39·61 | +0·02 | β¹ Scorpii | 15 | 56 | 15·51 | −0·01 |
| Aldebaran | 4 | 26 | 51·70 | 0·00 | δ Ophiuchi | 16 | 6 | 4·25 | −0·06 |
| Rigel | 5 | 6 | 56·86 | +0·01 | Antares | 16 | 19 | 43·84 | +0·02 |
| β Tauri | 5 | 16 | 18·52 | 0·00 | α Herculis | 17 | 7 | 26·72 | −0·04 |
| δ Orionis | 5 | 23 | 56·22 | −0·01 | α Ophiuchi | 17 | 27 | 36·14 | +0·03 |
| α Leporis | 5 | 25 | 45·84 | −0·01 | μ Sagittarii | 18 | 4 | 18·91 | +0·02 |
| ε Orionis | 5 | 28 | 11·95 | +0·01 | δ Ursæ Minoris | 18 | 23 | 17·94 | −0·05 |
| α Columbæ | 5 | 33 | 55·85 | −0·01 | α Lyræ | 18 | 31 | 35·36 | +0·04 |
| α Orionis | 5 | 46 | 37·20 | 0·00 | β Lyræ | 18 | 44 | 14·84 | −0·03 |
| μ Geminorum | 6 | 13 | 24·05 | −0·02 | ζ Aquilæ | 18 | 58 | 8·91 | +0·01 |
| Sirius | 6 | 38 | 11·28 | +0·07 | δ Aquilæ | 19 | 17 | 31·88 | +0·07 |
| ε Canis Majoris | 6 | 52 | 25·09 | −0·01 | γ Aquilæ | 19 | 38 | 44·86 | +0·03 |
| δ Geminorum | 7 | 10 | 40·94 | −0·07 | α Aquilæ | 19 | 43 | 4·47 | +0·05 |
| Castor | 7 | 24 | 30·67 | −0·03 | β Aquilæ | 19 | 47 | 33·07 | −0·04 |
| Procyon | 7 | 31 | 1·65 | +0·01 | α² Capricorni | 20 | 9 | 17·02 | +0·06 |
| Pollux | 7 | 35 | 38·43 | +0·02 | ζ Cygni | 21 | 6 | 12·92 | −0·01 |
| 15 Argus | 8 | 0 | 48·93 | −0·26 | β Aquarii | 21 | 23 | 14·18 | −0·06 |
| ε Hydræ | 8 | 38 | 24·31 | −0·11 | ε Pegasi | 21 | 36 | 25·57 | −0·04 |
| α Hydræ | 9 | 19 | 49·34 | −0·13 | α Aquarii | 21 | 57 | 40·00 | −0·02 |
| ε Leonis | 9 | 36 | 52·34 | −0·04 | ζ Pegasi | 22 | 33 | 35·06 | +0·09 |
| Regulus | 9 | 59 | 57·11 | −0·09 | Fomalhaut | 22 | 48 | 54·44 | +0·10 |
| δ Leonis | 11 | 5 | 41·85 | +0·04 | α Pegasi | 22 | 56 | 53·74 | +0·07 |
| δ Crateris | 11 | 11 | 26·73 | −0·18 | ι Piscium | 23 | 31 | 49·54 | +0·16 |
| β Leonis | 11 | 40 | 59·79 | −0·04 | | | | | |

The Mean Right Ascensions are converted into Apparent, by the application of the reductions of mean to apparent places taken from the Nautical Almanac. The correction of the Clock is determined from the observed transits of the stars in the foregoing Table (except α and δ Ursæ Minoris), the correction of the instrument being previously applied, compared with the Apparent Right Ascensions computed.

The corrections of the Clock thus determined are contained in the column entitled "Correction of Clock observed."

On account of the excessive variability of the clock rate, and the uncertain semi-diurnal fluctuations of the transit axis in azimuth, the "adopted clock corrections" have been obtained by graphical projection, as described in the last volume, and the curves so obtained are appended, as well as a resulting table of the errors of the clock at $0^h$ S.T., but of which no use has been made.

## TABLE VII.

### CORRECTION AND RATE OF THE TRANSIT CLOCK, AT $0^h$ SIDEREAL TIME.

| Date. | Clock's | | Date. | Clock's | | Date. | Clock's | |
|---|---|---|---|---|---|---|---|---|
| | Correction. | Rate. | | Correction. | Rate. | | Correction. | Rate. |
| 1842. | s. | s. | 1842. | s. | s. | 1842. | s. | s. |
| Jan. 1 | +50·94 | +0·95 | Feb. 23 | +40·39 | +0·64 | Apr. 18 | +15·24 | +0·24 |
| 2 | +51·89 | +0·80 | 24 | +41·03 | +0·70 | 19 | +15·48 | +0·40 |
| 3 | +52·69 | +0·99 | 25 | +41·73 | +0·59 | 20 | +15·88 | +0·17 |
| 4 | +53·68 | +1·08 | 26 | +42·32 | | 21 | +16·05 | +0·24 |
| 5 | +54·76 | +1·01 | Mar. 1 | +42·63 | +0·81 | 22 | +16·29 | |
| 6 | +55·77 | +0·96 | 2 | +43·44 | +0·62 | 25 | +17·72 | +0·53 |
| 7 | +56·73 | +1·25 | 3 | +44·06 | +0·69 | 26 | +18·25 | +0·66 |
| 8 | +57·98 | | 4 | +44·75 | | 27 | +18·91 | +0·41 |
| 11 | +60·59 | +0·94 | 7 | +46·86 | +0·63 | 28 | +19·32 | |
| 12 | +61·53 | | 8 | +47·49 | +0·57 | May 1 | +21·46 | +0·13 |
| 15 | +64·33 | | 9 | +48·06 | +0·46 | 2 | +21·59 | |
| 17 | +66·53 | +1·13 | 10 | +48·52 | +0·75 | 4 | +22·27 | +0·08 |
| 18 | +67·66 | +1·11 | 11 | +49·27 | +0·81 | 5 | +22·35 | −0·15 |
| 19 | +68·77 | +1·11 | 12 | +50·08 | | 6 | +22·20 | −0·20 |
| (a) 20 | + 9·88 | +0·95 | 17 | +52·63 | +0·46 | (b) 7 | +22·00 | |
| 21 | +10·83 | +1·01 | 18 | +53·09 | +0·49 | 21 | +22·12 | +2·83 |
| 22 | +11·84 | | 19 | +53·58 | | 22 | +24·95 | |
| 24 | +13·59 | +0·93 | 23 | +57·64 | | 25 | +31·52 | +2·11 |
| 25 | +14·52 | +0·86 | 25 | +58·24 | | 26 | +33·63 | +2·44 |
| 26 | +15·38 | +0·92 | 28 | +60·01 | +0·64 | 27 | +36·07 | |
| 27 | +16·30 | +1·04 | 29 | +60·65 | +0·40 | 30 | +42·96 | +2·10 |
| 28 | +17·34 | +0·94 | 30 | +61·05 | | 31 | +45·06 | +2·03 |
| 29 | +18·28 | | (a) Apr. 1 | +61·95 | +0·93 | June 1 | +47·09 | +2·17 |
| 31 | +20·12 | +1·29 | 2 | + 2·88 | +0·61 | 2 | +49·26 | +2·63 |
| Feb. 1 | +21·41 | +0·96 | 3 | + 3·49 | +0·70 | 3 | +51·89 | +2·37 |
| 2 | +22·37 | +1·19 | 4 | + 4·19 | +0·75 | 6 | +58·42 | |
| 3 | +23·56 | +1·07 | 5 | + 4·94 | | 7 | +60·79 | +2·23 |
| 4 | +24·63 | +0·99 | 7 | + 6·57 | +0·88 | 8 | +63·02 | +2·16 |
| 5 | +25·62 | | 8 | + 7·45 | +0·66 | (c) 9 | +65·18 | |
| 10 | +31·08 | +0·82 | 9 | + 8·11 | +0·76 | 11 | −11·49 | +0·94 |
| 11 | +31·90 | +0·53 | 10 | + 8·87 | +0·80 | 12 | −10·55 | +0·43 |
| 12 | +32·43 | | 11 | + 9·67 | +1·03 | 13 | −10·12 | 0·00 |
| 15 | +34·50 | +0·77 | 12 | +10·70 | +0·76 | 14 | −10·12 | −0·40 |
| 16 | +35·27 | | 13 | +11·46 | | 15 | −10·52 | +0·03 |
| 19 | +37·78 | +0·60 | 15 | +13·40 | +0·90 | 16 | −10·49 | +0·39 |
| 20 | +38·38 | +0·68 | 16 | +14·30 | +0·99 | 17 | −10·10 | +0·52 |
| 21 | +39·06 | | 17 | +15·29 | −0·05 | 18 | − 9·58 | |

(a) Minute-hand put forward one minute.
(b) Transit Clock cleaned, and replaced May 10.
(c) Clock stopped, and pendulum adjusted.

| Date. | Clock's | |
|---|---|---|
| | Correction. | Rate. |
| 1842. | s. | s. |
| June 22 | − 8·36 | |
| | | +0·22 |
| 23 | − 8·14 | |
| | | +0·31 |
| 24 | − 7·83 | |
| 27 | − 6·06 | |
| | | +0·78 |
| 28 | − 5·28 | |
| | | +0·69 |
| 29 | − 4·59 | |
| | | +0·75 |
| 30 | − 3·84 | |
| | | +0·54 |
| July 1 | − 3·30 | |
| 4 | − 0·49 | |
| | | +0·84 |
| 5 | + 0·35 | |
| | | +0·98 |
| 6 | + 1·33 | |
| | | +0·77 |
| 7 | + 2·10 | |
| | | +0·76 |
| 8 | + 2·86 | |
| | | +1·01 |
| 9 | + 3·87 | |
| 12 | + 7·48 | |
| | | +0·93 |
| 13 | + 8·41 | |
| | | +0·92 |
| 14 | + 9·33 | |
| | | +1·41 |
| 15 | +10·74 | |
| | | +1·18 |
| 16 | +11·92 | |
| 19 | +15·55 | |
| | | +1·41 |
| 20 | +16·96 | |
| | | +1·24 |
| 21 | +18·20 | |
| | | +1·60 |
| 22 | +19·80 | |
| | | +1·42 |
| 23 | +21·22 | |
| 25 | +24·16 | |
| | | +1·53 |
| 26 | +25·69 | |
| | | +1·31 |
| 27 | +27·00 | |
| | | +1·18 |
| 28 | +28·18 | |
| | | +1·14 |
| 29 | +29·32 | |
| | | +1·59 |
| 30 | +30·91 | |
| | | +1·59 |
| 31 | +32·50 | |
| | | +1·31 |
| Aug. 1 | +33·81 | |
| | | +1·47 |
| 2 | +35·28 | |
| | | +1·48 |
| 3 | +36·76 | |
| | | +1·13 |
| 4 | +37·89 | |
| | | +1·71 |
| 5 | +39·60 | |
| | | +1·58 |
| 6 | +41·18 | |
| 9 | +45·10 | |
| 11 | +48·11 | |
| 13 | +51·57 | |
| | | +1·65 |
| 14 | +53·22 | |
| | | +1·68 |
| 15 | +54·90 | |
| | | +1·42 |
| 16 | +56·32 | |
| | | +2·20 |
| 17 | +58·52 | |
| | | +1·21 |
| 18 | +59·73 | |
| | | +2·02 |
| 19 | +61·75 | |
| | | +1·61 |
| Aug. 20 | +63·36 | |
| | | +1·62 |
| 21 | +64·98 | |
| | | +1·57 |
| (*a*) 22 | + 6·55 | |
| 24 | +10·07 | |
| 27 | +15·19 | |
| 29 | +18·70 | |
| | | +1·47 |
| 30 | +20·17 | |
| | | +1·83 |
| 31 | +22·00 | |
| Sept. 3 | +26·66 | |
| 6 | +31·74 | |
| 8 | +35·00 | |
| | | +1·49 |
| 9 | +36·49 | |
| | | +1·69 |
| 10 | +38·18 | |
| | | +1·63 |
| 11 | +39·81 | |
| | | +1·84 |
| 12 | +41·65 | |
| | | +1·70 |
| 13 | +43·35 | |
| | | +1·84 |
| 14 | +45·19 | |
| | | +1·32 |
| 15 | +46·51 | |
| | | +1·05 |
| 16 | +47·56 | |
| | | +0·77 |
| 17 | +48·33 | |
| | | +0·78 |
| 18 | +49·11 | |
| | | +1·05 |
| 19 | +50·16 | |
| | | +0·88 |
| 20 | +51·04 | |
| | | +0·66 |
| 21 | +51·70 | |
| 26 | +56·20 | |
| | | +0·96 |
| 27 | +57·16 | |
| | | +1·19 |
| 28 | +58·35 | |
| | | +1·28 |
| 29 | +59·63 | |
| | | +1·19 |
| 30 | +60·82 | |
| | | +1·08 |
| Oct. 1 | +61·90 | |
| (*a*) 4 | +64·82 | |
| 5 | + 5·76 | |
| | | +1·24 |
| 6 | + 7·00 | |
| | | +1·32 |
| 7 | + 8·32 | |
| | | +1·11 |
| 8 | + 9·43 | |
| 10 | +11·88 | |
| | | +1·19 |
| 11 | +13·07 | |
| | | +1·12 |
| 12 | +14·19 | |
| | | +0·95 |
| 13 | +15·14 | |
| | | +1·40 |
| 14 | +16·54 | |
| | | +0·98 |
| 15 | +17·52 | |
| 17 | +19·50 | |
| | | +0·71 |
| 18 | +20·21 | |
| | | +0·61 |
| 19 | +20·82 | |
| | | +0·46 |
| 20 | +21·28 | |
| | | +0·58 |
| 21 | +21·86 | |
| | | +0·54 |
| Oct. 22 | +22·40 | |
| 24 | +23·33 | |
| | | +0·39 |
| 25 | +23·72 | |
| | | +0·28 |
| 26 | +24·00 | |
| | | +0·52 |
| 27 | +24·52 | |
| | | +0·52 |
| 28 | +25·04 | |
| | | +0·74 |
| 29 | +25·78 | |
| | | +0·61 |
| 30 | +26·39 | |
| | | +0·81 |
| 31 | +27·20 | |
| | | +1·45 |
| Nov. 1 | +28·65 | |
| 3 | +30·26 | |
| | | +0·80 |
| 4 | +31·06 | |
| | | +0·72 |
| 5 | +31·78 | |
| 7 | +33·54 | |
| | | +0·91 |
| 8 | +34·45 | |
| | | +0·67 |
| 9 | +35·12 | |
| 12 | +36·36 | |
| | | +0·57 |
| 13 | +36·93 | |
| | | +0·25 |
| 14 | +37·18 | |
| | | +0·72 |
| 15 | +37·90 | |
| 18 | +39·89 | |
| | | +0·76 |
| 19 | +40·65 | |
| | | +0·85 |
| 20 | +41·50 | |
| 23 | +42·27 | |
| | | +0·05 |
| 24 | +42·32 | |
| | | +0·19 |
| 25 | +42·51 | |
| 29 | +43·92 | |
| | | +0·22 |
| 30 | +44·14 | |
| | | +0·56 |
| Dec. 1 | +44·70 | |
| 3 | +46·09 | |
| 8 | +48·66 | |
| 10 | +49·48 | |
| | | +0·04 |
| 12 | +49·52 | |
| | | +0·51 |
| 13 | +50·03 | |
| 16 | +50·06 | |
| | | −0·35 |
| 17 | +49·71 | |
| | | −0·73 |
| 18 | +48·98 | |
| 22 | +47·58 | |
| | | −0·95 |
| 23 | +46·63 | |
| | | −0·79 |
| 24 | +45·84 | |
| 26 | +44·92 | |
| | | −0·39 |
| 27 | +44·53 | |
| | | −0·26 |
| 28 | +44·27 | |
| | | +0·03 |
| 29 | +44·30 | |
| | | +0·34 |
| 30 | +44·64 | |
| | | −0·11 |
| 31 | +44·53 | |

(*a*) Minute-hand put forward one minute.

The observed apparent Right Ascensions of the Stars, contained in the last column, are reduced to Mean Right Ascensions at the beginning of 1842, the values of precession, aberration, and proper motion, being assumed as in the Nautical Almanac and Astronomical Society's Catalogue. The individual results for each star are contained in pp. 84–106.

ROYAL OBSERVATORY, EDINBURGH.

# OBSERVATIONS

MADE WITH

# THE MURAL CIRCLE,

AND COMPUTATIONS OF

# APPARENT DECLINATION.

1842.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Jan. 1 | The Telescope was moved 25° 50′ backward on the Circle. |  |  |  |  |  |  |  |  |  |  |  |
| Jan. 2 | Venus Centre | 36·2 | 36·3 | +0·5 | 113 15 36·7 | ...... | 35·0 | 29·80 | 39·0 | + 5 1·7 | 304 8 3·4 | −23 15 11· |
|  | δ Ursæ Minoris | 31·3 | 35·0 | −0·5 | 3 30 32·6 | ...... | ...... | ...... | ...... | − 0 35·3 | ............ | +86 35 29· |
|  | β Lyræ | 5·9 | 7·5 | +0·1 | 56 54 6·8 | ...... | ...... | ...... | ...... | + 0 25·1 | ............ | +33 10 54· |
| Jan. 3 | Sun North Limb | 10·2 | 10·5 | +0·5 | 112 35 10·8 | ...... | 35·5 | 29·77 | 38·8 | + 4 44·2 | ............ | −22 34 28· |
|  | α Aquilæ | 2·0 | 3·5 | +0·1 | 81 37 2·8 | ...... | ...... | ...... | ...... | + 1 4·9 | ............ | + 8 27 18· |
|  | Uranus | 51·0 | 52·9 | +0·3 | 94 20 52·2 | ...... | ...... | ...... | ...... | + 1 43·9 | ............ | − 4 17 9· |
|  | (a) γ Cephei | 18·8 | 21·5 | −0·4 | 13 20 19·7 | + 2·2 | ...... | ...... | ...... | − 0 22·7 | ............ | +76 45 27· |
|  | (b) ϰ Andromedæ | 20·1 | 23·0 | +0·1 | 46 37 21·6 | ...... | ...... | ...... | ...... | + 0 13·2 | ............ | +43 27 51· |
|  | 76 Pegasi | 50·1 | 53·1 | +0·1 | 74 36 51·7 | ...... | 34·7 | 29·74 | 37·9 | + 0 50·9 | ............ | +15 27 44· |
|  | A.S.C. 2853 | 21·8 | 22·1 | +0·4 | 105 10 22·3 | ...... | ...... | ...... | ...... | + 2 52·0 | ............ | −15 7 47· |
|  | (c) Nadir | 59·2<br>64·2 | 62·2<br>67·3 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ...................... | 64·4<br>59·3 | 68·2<br>63·3 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| Jan. 4 | α Aquilæ | 1·5 | 3·8 | +0·1 | 81 37 2·7 | ...... | 35·8 | 29·86 | 38·0 | + 1 5·1 | 3·7 | + 8 27 19·1 |
|  | α Cephei | 15·9 | 19·8 | −0·1 | 28 10 17·7 | ...... | 35·4 | 29·88 | 37·8 | − 0 6·3 | ............ | +61 55 15· |
|  | β Cephei | 21·2 | 23·2 | −0·3 | 20 13 21·9 | ...... | ...... | ...... | ...... | − 0 14·8 | ............ | +69 52 19· |
|  | (d) α Aquarii | 55·5 | 57·6 | +0·2 | 91 8 56·8 | 0·0 | ...... | ...... | ...... | + 1 31·9 | ............ | − 1 5 1· |
|  | Mars Centre | 35·9 | 35·2 | +0·4 | 103 0 35·9 | ...... | 34·3 | 29·90 | 37·6 | + 2 34·3 | ............ | −12 57 43· |
|  | α Pegasi | 0·0 | 2·6 | +0·1 | 75 43 1·4 | ...... | ...... | ...... | ...... | + 0 53·2 | ............ | +14 21 32· |
|  | 69 Pegasi | 37·0 | 38·2 | +0·1 | 65 46 37·7 | ...... | ...... | ...... | ...... | + 0 36·9 | ............ | +24 18 12· |
|  | (e) Uranus | 7·5 | 9·0 | +0·3 | 94 20 8·5 | 0·0 | ...... | ...... | ...... | + 1 44·5 | ............ | − 4 16 26·1 |
|  | ϰ Andromedæ | 20·2 | 22·8 | +0·1 | 46 37 21·6 | ...... | ...... | ...... | ...... | + 0 13·3 | ............ | +43 27 52· |
|  | 76 Pegasi | 50·6 | 52·9 | +0·1 | 74 36 51·8 | ...... | ...... | ...... | ...... | + 0 51·2 | ............ | +15 27 43· |
|  | β Persei | 20·1 | 22·0 | +0·1 | 49 44 21·2 | ...... | ...... | ...... | ...... | + 0 16·8 | ............ | +40 20 48· |
|  | Piazzi II. 255 | 48·0 | 49·7 | −0·4 | 12 56 48·4 | ...... | 33·1 | 29·93 | 36·6 | − 0 23·3 | ............ | +77 9 1· |
|  | δ Persei | 24·4 | 26·0 | 0·0 | 42 48 25·2 | ...... | ...... | ...... | ...... | + 0 9·2 | ............ | +47 16 52·5 |
|  | (f) Nadir | 0·0<br>5·0 | 2·9<br>7·6 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ..... ..... | ............... |
|  | ...................... | 0·0<br>4·4 | 3·2<br>7·5 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| Jan. 5 | (d) Mars Centre | 40·7 | 38·9 | +0·4 | 102 43 40·2 | + 0·2 | 33·5 | 29·86 | 35·4 | + 2 32·1 | 3·8 | −12 40 45·5 |
|  | (g) Piazzi XXII. 295 | 32·5 | 35·0 | −0·5 | 6 35 33·2 | + 0·1 | ...... | ...... | ...... | − 0 31·3 | ............ | +83 30 25·0 |
|  | Groomb. 1782 S.P. | 39·7 | 41·1 | −0·5 | 352 5 39·9 | ...... | ...... | ...... | ...... | − 0 54·1 | ............ | +81 59 18·8 |
|  | Uranus | 24·7 | 23·4 | +0·3 | 94 19 24·4 | ...... | ...... | ...... | ...... | + 1 44·4 | ............ | − 4 15 41·8 |
|  | 103 Aquarii | 49·4 | 47·3 | +0·5 | 108 55 48·8 | ...... | ...... | ...... | ...... | + 3 37·6 | ............ | −18 53 59·4 |
|  | (h) 76 Pegasi | 52·2 | 53·1 | +0·1 | 74 36 52·7 | + 0·1 | 33·4 | 29·87 | 35·1 | + 0 51·2 | ............ | +15 27 43·0 |
|  | (i) Moon South Limb | 30·7 | ...... | +0·5 | 112 26 30·9 | − 4·7 | ...... | ...... | ...... | + 4 44·2 | 4·0 | −22 25 43·2 |
|  | (k) ........................ | 36·1 | 35·5 | +0·5 | 112 26 36·3 | −10·7 | 33·1 | 29·95 | 34·8 | + 4 44·2 | ............ | −22 25 42·6 |
|  | β Ursæ Minoris | 7·9 | 9·9 | −0·4 | 15 18 8·5 | ...... | ...... | ...... | ...... | − 0 20·5 | ............ | +74 47 39·2 |
|  | ψ Bootis | 9·3 | 10·5 | +0·1 | 62 31 10·0 | ...... | ...... | ...... | ...... | + 0 32·5 | ............ | +27 33 44·7 |
| Jan. 6 | α Cephei | 17·0 | 20·0 | −0·1 | 28 10 18·4 | ...... | 35·2 | 30·03 | 36·0 | − 0 6·3 | ............ | +61 55 15·1 |
|  | β Cephei | 22·1 | 24·0 | −0·3 | 20 13 22·8 | ...... | ...... | ...... | ...... | − 0 14·9 | ............ | +69 52 19·3 |
|  | Mars Centre | 38·1 | 36·0 | +0·4 | 102 26 37·4 | ...... | 33·7 | 30·04 | 35·7 | + 2 30·8 | ............ | −12 23 41·0 |
|  | α Pegasi | 0·2 | 2·6 | +0·1 | 75 43 1·5 | ...... | ...... | ...... | ...... | + 0 53·5 | ............ | +14 21 32·2 |
|  | (l) Piazzi XXII. 295 | 29·6 | 31·9 | −0·5 | 6 35 30·2 | + 2·9 | ...... | ...... | ...... | − 0 31·5 | ............ | +83 30 25·6 |

(a) At 23ʰ 30ᵐ 56ˢ.
(b) Wire III.
(c) At 23ʰ 55ᵐ.

(d) Wire V.
(e) Wire II.
(f) At 4ʰ 0ᵐ.

(g) At 22ʰ 55ᵐ 0ˢ
(h) Wire IV.
(i) At 14ʰ 45ᵐ 1ˢ.

(k) At 14ʰ 45ᵐ 36ˢ.
(l) At 22ʰ 59ᵐ 12ˢ

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Jan. 6 | Groomb. 1782 S.P. | 40·4 | 42·5 | −0·5 | 352 5 40·9 | ...... | ...... | ...... | ...... | − 0 54·4 | 304 8 4·0 | +81 59 19·3 |
| | Uranus | 38·7 | 38·1 | +0·3 | 94 18 38·7 | ...... | ...... | ...... | ...... | + 1 45·0 | ............ | − 4 14 56·5 |
| | (a) ω² Aquarii | 36·2 | 35·5 | +0·4 | 105 27 36·3 | −0·2 | ...... | ...... | ...... | + 2 56·1 | ............ | −15 25 5·0 |
| | A.S.C. 2853 | 21·8 | 19·9 | +0·4 | 105 10 21·2 | ...... | 33·9 | 30·05 | 35·9 | + 2 54·0 | ............ | −15 7 48·0 |
| | Groomb. 2213 S.P. | 29·0 | 30·9 | −0·6 | 354 39 29·4 | ...... | ...... | ...... | ...... | − 0 49·7 | ............ | +84 33 12·5 |
| | A.S.C. 359 | 26·5 | 26·2 | +0·1 | 61 36 26·4 | ...... | ...... | ...... | ...... | + 0 31·4 | ............ | +28 28 29·4 |
| | α Persei | 27·0 | 27·3 | 0·0 | 40 47 27·1 | ...... | 33·5 | 30·11 | 34·9 | + 0 7·1 | ............ | +49 17 53·0 |
| | σ Persei | 20·9 | 22·2 | 0·0 | 42 38 21·6 | ...... | ...... | ...... | ...... | + 0 9·0 | ............ | +47 26 56·6 |
| | 12 Tauri | 40·0 | 39·9 | +0·2 | 87 31 40·1 | ...... | ...... | ...... | ...... | + 1 21·4 | ............ | + 2 32 25·7 |
| | (b) ζ Ursæ Minoris S.P. | 44·1 | 46·8 | −0·5 | 348 22 45·0 | −0·2 | ...... | ...... | ...... | − 1 2·1 | ............ | +78 16 15·5 |
| | ν Tauri | 20·7 | 21·5 | +0·2 | 84 31 21·3 | ...... | ...... | ...... | ...... | + 1 13·0 | ............ | + 5 32 52·9 |
| | (a) ο Eridani | 39·0 | 38·2 | +0·3 | 97 18 38·9 | −0·1 | ...... | ...... | ...... | + 1 59·3 | ............ | − 7 15 10·9 |
| | 19 Ursæ Minoris S.P. | 33·0 | 36·5 | −0·5 | 346 22 34·3 | ...... | 33·5 | 30·12 | 35·0 | − 1 6·6 | ............ | +76 16 0·5 |
| | (c) Nadir | 0·2<br>4·9 | 2·9<br>8·0 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | 49 Eridani | 32·0 | 31·7 | +0·2 | 89 23 32·1 | ...... | ...... | ...... | ...... | + 1 27·2 | ............ | + 0 40 27·9 |
| | A.S.C. 542 | 46·5 | 46·8 | +0·4 | 104 42 47·1 | ...... | ...... | ...... | ...... | + 2 50·3 | ............ | −14 40 10·2 |
| | A.S.C. 547 | 32·0 | 32·9 | +0·1 | 79 13 32·6 | ...... | ...... | ...... | ...... | + 1 0·7 | ............ | +10 50 53·9 |
| | 1 Orionis | 23·0 | 23·5 | +0·2 | 83 23 23·5 | ...... | ...... | ...... | ...... | + 1 10·2 | ............ | + 6 40 53·5 |
| | (d) Nadir | 0·3<br>5·0 | 3·2<br>8·3 | −0·1 | 214 8 4·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | (e) 64 Eridani | 20·6 | 19·8 | +0·4 | 102 49 20·6 | −0·4 | ...... | ...... | ...... | + 2 34·1 | ............ | −12 46 27·1 |
| | 68 Eridani | 36·2 | 36·2 | +0·3 | 94 43 36·5 | ...... | ...... | ...... | ...... | + 1 47·1 | ............ | − 4 39 56·4 |
| | (f) Groombridge 931 | 19·7 | 20·3 | −0·4 | 11 51 19·6 | +0·8 | ...... | ...... | ...... | − 0 24·8 | ............ | +78 14 31·6 |
| | Groomb. 2427 S.P. | 4·1 | 7·4 | −0·5 | 345 37 5·2 | ...... | ...... | ...... | ...... | − 1 8·4 | ............ | +75 30 29·6 |
| | A.S.C. 626 | 14·6 | 14·0 | +0·4 | 103 44 14·7 | ...... | ...... | ...... | ...... | + 2 41·8 | ............ | −13 41 29·3 |
| | (f) λ Leporis | 25·5 | 24·0 | +0·4 | 103 23 25·2 | −0·1 | 32·0 | 30·07 | 34·1 | + 2 38·8 | ............ | −13 20 36·7 |
| | 31 Orionis | 8·3 | 9·8 | +0·2 | 91 17 9·2 | ...... | ...... | ...... | ...... | + 1 33·7 | ............ | − 1 13 15·7 |
| | σ Orionis | 32·5 | 32·9 | +0·3 | 92 45 33·0 | ...... | ...... | ...... | ...... | + 1 39·2 | ............ | − 2 41 45·0 |
| | 52 Orionis | 38·0 | 37·2 | +0·2 | 83 40 37·8 | ...... | ...... | ...... | ...... | + 1 11·0 | ............ | + 6 23 38·4 |
| | 59 Orionis | 2·5 | 4·0 | +0·2 | 88 15 3·4 | ...... | ...... | ...... | ...... | + 1 23·7 | ............ | + 1 49 0·1 |
| | τ Leporis | 48·7 | 47·1 | +0·5 | 109 10 48·4 | ...... | 32·3 | 30·06 | 33·8 | + 3 43·4 | ............ | −19 9 4·6 |
| | ε Serpentis | 53·7 | 54·2 | +0·2 | 85 6 54·1 | ...... | 29·2 | 30·16 | 33·7 | + 1 15·4 | 4·1 | + 4 57 17·8 |
| | γ Serpentis | 55·6 | 56·7 | +0·1 | 73 53 56·3 | ...... | ...... | ...... | ...... | + 0 50·9 | ............ | +16 10 40·1 |
| | θ Draconis | 30·4 | 29·9 | −0·1 | 31 6 30·0 | ...... | ...... | ...... | ...... | − 0 3·2 | ............ | +58 59 0·5 |
| | Venus Centre | 16·0 | 15·7 | +0·5 | 113 24 16·4 | ...... | 32·5 | 30·16 | 33·8 | + 5 11·3 | ............ | −23 24 0·4 |
| | (g) δ Ursæ Minoris | 33·6 | 36·8 | −0·5 | 3 30 34·7 | +0·3 | ...... | ...... | ...... | − 0 36·0 | ............ | +86 35 28·3 |
| Jan. 7 | Sun South Limb | 38·3 | 36·5 | +0·5 | 112 40 37·9 | ...... | 33·6 | 30·15 | 34·9 | + 4 51·5 | ............ | −22 40 2·1 |
| | α Aquilæ | 2·8 | 3·9 | +0·1 | 81 37 3·4 | ...... | ...... | ...... | ...... | + 1 5·9 | ............ | + 8 27 18·0 |
| | α Cephei | 17·8 | 20·2 | −0·1 | 28 10 18·9 | ...... | ...... | ...... | ...... | − 0 6·3 | ............ | +61 55 14·7 |
| | β Cephei | 22·0 | 25·4 | −0·3 | 20 13 23·4 | ...... | 35·2 | 30·15 | 36·4 | − 0 15·0 | ............ | +69 52 18·9 |
| | Mars Centre | 28·8 | 26·9 | +0·4 | 102 9 28·3 | ...... | 35·2 | 30·16 | 36·7 | + 2 28·6 | ............ | −12 6 29·6 |
| | Piazzi XXII. 295 | 32·8 | 35·7 | −0·5 | 6 35 33·7 | ...... | ...... | ...... | ...... | − 0 31·5 | ............ | +83 30 25·1 |
| | Groomb. 1782 S.P. | 40·7 | 43·0 | −0·5 | 352 5 41·3 | ...... | ...... | ...... | ...... | − 0 54·4 | ............ | +81 59 19·6 |
| | Uranus | 51·9 | 51·6 | +0·3 | 94 17 52·1 | ...... | ...... | ...... | ...... | + 1 45·0 | ............ | − 4 14 9·8 |
| | 103 Aquarii | 49·5 | 48·2 | +0·5 | 108 55 49·3 | ...... | ...... | ...... | ...... | + 3 39·3 | ............ | −18 54 1·3 |
| | (a) ω² Aquarii | 36·2 | 35·6 | +0·4 | 105 27 36·4 | −0·2 | ...... | ...... | ...... | + 2 57·1 | ............ | −15 25 6·0 |
| | 23 Piscium | 59·1 | 61·0 | +0·1 | 69 17 0·1 | ...... | 34·6 | 30·16 | 36·4 | + 0 42·6 | ............ | +20 47 44·6 |
| | (h) δ Ursæ Minoris | 31·2 | 35·5 | −0·5 | 3 30 32·8 | +1·8 | 34·5 | 30·06 | 36·0 | − 0 35·8 | 4·2 | +86 35 28·6 |
| Jan. 8 | Sun North Limb | 28·9 | 29·5 | +0·5 | 112 0 29·7 | ...... | 34·6 | 30·04 | 36 0 | + 4 33·8 | ............ | −21 59 36·1 |
| | α Aquilæ | 4·3 | 5·7 | +0·1 | 81 37 5·1 | ...... | ...... | ...... | ...... | + 1 5·6 | ............ | + 8 27 16·7 |
| | (i) ζ Ursæ Minoris S.P. | 42·3 | 46·0 | −0·5 | 348 22 43·7 | −0·8 | 34·3 | 29·97 | 36·0 | − 1 1·7 | ............ | +78 16 13·8 |

(a) Wire V.
(b) At $3^h$ $50^m$ $45^s$.
(c) At $4^h$ $25^m$.

(d) At $4^h$ $50^m$.
(e) $1^m$ after transit.
(f) Wire IV.

(g At $18^h$ $24^m$ $40^s$.
(h) At $18^h$ $19^m$ $12^s$.
(i) Wire II.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| | Groombridge 784 | 12·2 | 15·2 | − 0·4 | 14 23 13·3 | ...... | ...... | ...... | ...... | − 0 21·6 | 304 8 4·2 | +75 42 35·7 |
| | 46 Tauri | 46·8 | 46·8 | + 0·2 | 82 45 47·0 | ...... | ...... | ...... | ...... | + 1 8·2 | ............ | + 7 18 32·2 |
| | 19 Ursæ Minoris S.P. | 31·9 | 36·0 | − 0·5 | 346 22 33·5 | ...... | ...... | ...... | ...... | − 1 6·1 | ............ | +76 16 0·0 |
| | (*a*) Nadir | 59·5<br>65·5 | 63·0<br>69·1 | − 0·1 | 214 8 4·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | 49 Eridani | 31·8 | 32·5 | + 0·2 | 89 23 32·4 | ...... | ...... | ...... | ...... | + 1 26·6 | ............ | + 0 40 28·4 |
| | A.S.C. 542 | 47·0 | 46·4 | + 0·4 | 104 42 47·1 | ...... | ...... | ...... | ...... | + 2 49·1 | ............ | −14 40 8·8 |
| | A.S.C. 547 | 34·0 | 34·0 | + 0·1 | 79 13 34·1 | ...... | ...... | ...... | ...... | + 1 0·3 | ............ | +10 50 53·0 |
| | 1 Orionis | 24·8 | 25·8 | + 0·2 | 83 23 25·5 | ...... | ...... | ...... | ...... | + 1 9·7 | ............ | + 6 40 52·2 |
| | (*b*) Nadir | 0·0<br>4·7 | 4·0<br>9·0 | − 0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | 64 Eridani | 23·8 | 23·1 | + 0·4 | 102 49 23·9 | ...... | ...... | ...... | ...... | + 2 33·0 | ............ | −12 46 29·5 |
| | (*c*) λ Eridani | 58·3 | 59·8 | + 0·4 | 99 0 59·4 | 0·0 | ...... | ...... | ...... | + 2 7·7 | ............ | − 8 57 39·7 |
| | (*d*) Groombridge 931 | 18·5 | 20·1 | − 0·4 | 11 51 18·9 | +0·8 | ...... | ...... | ...... | − 0 24·6 | ............ | +78 14 32·3 |
| | Groomb. 2427 S.P. | 3·9 | 7·2 | − 0·5 | 345 37 5·0 | ...... | ...... | ...... | ...... | − 1 8·0 | ............ | +75 30 29·6 |
| | A.S.C. 626 | 18·9 | 19·0 | + 0·4 | 103 44 19·4 | ...... | ...... | ...... | ...... | + 2 40·5 | ............ | −13 41 32·5 |
| | 22 Orionis | 29·2 | 30·4 | + 0·2 | 90 36 30·0 | ...... | ...... | ...... | ...... | + 1 30·6 | ............ | − 0 32 33·2 |
| | β Tauri | 44·7 | 45·0 | + 0·1 | 61 36 44·9 | ...... | 34·1 | 29·96 | 35·9 | + 0 31·3 | ............ | +28 28 11·2 |
| | 31 Orionis | 9·3 | 11·7 | + 0·2 | 91 17 10·7 | ...... | ...... | ...... | ...... | + 1 32·9 | ............ | − 1 13 16·2 |
| | δ Orionis | 11·7 | 13·0 | + 0·2 | 90 29 12·6 | ...... | ...... | ...... | ...... | + 1 30·2 | ............ | − 0 25 15·4 |
| | ε Orionis | 20·3 | 21·9 | + 0·2 | 91 22 21·3 | ...... | ...... | ...... | ...... | + 1 33·2 | ............ | − 1 18 27·1 |
| | α Orionis | 56·2 | 58·0 | + 0·2 | 82 41 57·3 | ...... | ...... | ...... | ...... | + 1 8·1 | ............ | + 7 22 22·0 |
| | 59 Orionis | 3·0 | 4·9 | + 0·2 | 88 15 4·1 | ...... | ...... | ...... | ...... | + 1 23·0 | ............ | + 1 49 0·3 |
| Jan. 11 | (*e*) 22 Tauri | 50·2 | 51·1 | + 0·1 | 66 2 50·8 | +1·0 | 29·7 | 29·67 | 33·9 | + 0 37·5 | 4·7 | +24 1 58·6 |
| | (*d*) 30 Eridani | 46·1 | 45·9 | + 0·3 | 95 53 46·3 | 0·0 | ...... | ...... | ...... | + 1 51·6 | ............ | − 5 50 10·0 |
| | ξ Persei | 59·4 | 61·1 | + 0·1 | 54 45 0·3 | ...... | ...... | ...... | ...... | + 0 22·6 | ............ | +35 20 5·0 |
| | (*d*) ζ Ursæ Minoris S.P. | 42·6 | 46·1 | − 0·5 | 348 22 43·9 | −0·8 | ...... | ...... | ...... | − 1 1·7 | ............ | +78 16 13·5 |
| Jan. 12 | (*f*) Nadir | 0·8<br>5·5 | 4·0<br>9·0 | − 0·1 | 214 8 4·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 5·6<br>0·5 | 9·1<br>3·9 | − 0·1 | 214 8 4·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| Jan. 15 | α Aurigæ | 19·0 | 21·0 | 0·0 | 44 15 20·0 | ...... | 28·5 | 29·43 | 32·7 | + 0 10·7 | 4·2 | +45 49 56·7 |
| | (*c*) ν Aurigæ | 18·2 | 19·5 | + 0·1 | 50 59 19·0 | +0·6 | ...... | ...... | ...... | + 0 18·1 | ............ | +39 5 49·7 |
| | ξ Aurigæ | 36·4 | 36·9 | 0·0 | 34 25 36·6 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 39 50·5 |
| | δ Aurigæ | 26·0 | 27·2 | 0·0 | 35 49 26·6 | ...... | ...... | ...... | ...... | + 0 1·8 | ............ | +54 15 59·0 |
| | π Aurigæ | 14·0 | 16·2 | 0·0 | 44 10 15·1 | ...... | ...... | ...... | ...... | + 0 10·6 | ............ | +45 55 1·7 |
| | 40 Camelopardi | 21·5 | 23·8 | − 0·1 | 30 3 22·6 | ...... | ...... | ...... | ...... | − 0 4·3 | ............ | +60 2 9·1 |
| | 1 Lyncis | 59·8 | 63·0 | − 0·1 | 28 32 1·3 | ...... | ...... | ...... | ...... | − 0 5·9 | ............ | +61 33 32·0 |
| | 2 Lyncis | 50·5 | 52·2 | − 0·1 | 31 1 51·2 | ...... | ...... | ...... | ...... | − 0 3·2 | ............ | +59 3 39·4 |
| | (*g*) Nadir | 1·0<br>6·0 | 3·1<br>8·0 | − 0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 4·9<br>0·9 | 7·7<br>3·7 | − 0·1 | 214 8 4·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | 55 Aurigæ | 3·3 | 5·2 | + 0·1 | 45 25 4·3 | ...... | ...... | ...... | ...... | + 0 12·0 | ............ | +44 40 11·1 |
| | 42 Camelopardi | 27·0 | 29·5 | − 0·2 | 22 21 28·0 | ...... | ...... | ...... | ...... | − 0 12·5 | ............ | +67 44 11·9 |
| | 43 Camelopardi | 56·6 | 59·1 | − 0·3 | 21 1 57·5 | ...... | 26·6 | 29·39 | 32·2 | − 0 14·0 | ............ | +69 3 43·9 |
| Jan. 17 | ξ Persei | 58·9 | 60·7 | + 0·1 | 54 44 59·9 | ...... | ...... | ...... | ...... | + 0 22·5 | ............ | +35 20 5·0 |
| | (*h*) ζ Ursæ Minoris S.P. | 39·3 | 42·2 | − 0·5 | 348 22 40·3 | −0·1 | 35·8 | 29·91 | 36·6 | − 1 1·4 | ............ | +78 16 11·4 |
| | Groombridge 784 | 8·9 | 11·8 | − 0·4 | 14 23 10·0 | ...... | ...... | ...... | ...... | − 0 21·5 | ............ | +75 42 38·9 |
| | 46 Tauri | 48·6 | 47·9 | + 0·2 | 82 45 48·4 | ...... | ...... | ...... | ...... | + 1 7·9 | ............ | + 7 18 31·1 |
| | (*i*) 19 Ursæ Minoris S.P. | 30·9 | 34·0 | − 0·5 | 346 22 30·0 | −2·0 | ...... | ...... | ...... | − 1 5·8 | ............ | +76 15 54·8 |
| | A.S.C. 547 | 33·9 | 34·5 | + 0·1 | 79 13 34·3 | ...... | ...... | ...... | ...... | + 1 0·0 | ............ | +10 50 53·1 |

(*a*) At $4^{h}$ $25^{m}$.
(*b*) At $4^{h}$ $50^{m}$.
(*c*) Wire I.

(*d*) Wire IV.
(*e*) $1^{m}$ $10^{s}$ after transit.
(*f*) At $21^{h}$ $5^{m}$.

(*g*) At $6^{h}$ $15^{m}$.
(*h*) At $3^{h}$ $50^{m}$ $50^{s}$.
(*i*) At $4^{h}$ $18^{m}$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Jan. 17 | 59 Eridani | 8·7 | 8·2 | +0·4 | 106 39 8·9 | ...... | ...... | ...... | ...... | + 3 7·8 | 304 8 4·2 | −16 36 49·3 |
| | 62 Eridani | 11·0 | 11·7 | +0·3 | 95 29 11·7 | ...... | ...... | ...... | ...... | + 1 49·2 | ............ | − 5 25 33·5 |
| | 64 Eridani | 23·0 | 21·0 | +0·4 | 102 49 22·4 | ...... | ...... | ...... | ...... | + 2 32·4 | ............ | −12 46 27·4 |
| | η Aurigæ | 9·9 | 12·9 | +0·1 | 49 4 11·5 | ...... | 35·6 | 29·92 | 36·5 | + 0 16·0 | ............ | +41 0 59·9 |
| | λ Eridani | 0·5 | 0·4 | +0·4 | 99 1 0·8 | ...... | ...... | ...... | ...... | + 2 7·2 | ............ | − 8 57 40·6 |
| | (a) Groombridge 931 | 15·5 | 17·2 | −0·4 | 11 51 15·9 | + 1·5 | ...... | ...... | ...... | − 0 24·5 | ............ | +78 14 34·5 |
| | β Tauri | 44·0 | 44·7 | +0·1 | 61 36 44·4 | ...... | ...... | ...... | ...... | + 0 31·2 | ............ | +28 28 11·8 |
| | 31 Orionis | 11·5 | 13·7 | +0·2 | 91 17 12·8 | ...... | ...... | ...... | ...... | + 1 32·5 | ............ | − 1 13 17·9 |
| | δ Orionis | 12·0 | 13·2 | +0·2 | 90 29 12·8 | ...... | ...... | ...... | ...... | + 1 29·8 | ............ | − 0 25 15·2 |
| | ε Orionis | 21·5 | 22·2 | +0·2 | 91 22 22·0 | ...... | ...... | ...... | ...... | + 1 32·8 | ............ | − 1 18 27·4 |
| | σ Orionis | 34·7 | 36·0 | +0·3 | 92 45 35·6 | ...... | ...... | ...... | ...... | + 1 38·0 | ............ | − 2 41 46·2 |
| | 134 Tauri | 42·2 | 45·8 | +0·1 | 77 28 44·1 | ...... | ...... | ...... | ...... | + 0 56·5 | ............ | +12 35 46·8 |
| | α Orionis | 59·0 | 59·1 | +0·2 | 82 41 59·2 | ...... | ...... | ...... | ...... | + 1 7·8 | ............ | + 7 22 20·4 |
| | 59 Orionis | 4·7 | 7·2 | +0·2 | 88 15 6·1 | ...... | 36·3 | 29·93 | 37·0 | + 1 22·5 | ............ | + 1 48 58·8 |
| | τ Leporis | 52·6 | 52·0 | +0·5 | 109 10 52·8 | ...... | ...... | ...... | ...... | + 3 40·4 | ............ | −19 9 5·8 |
| | 75 Orionis | 41·9 | 45·1 | +0·1 | 80 4 43·6 | ..... | ...... | ...... | ...... | + 1 1·7 | ............ | + 9 59 42·1 |
| | 41 Draconis S.P. | 42·4 | 45·5 | −0·5 | 350 4 43·5 | ...... | ...... | ...... | ...... | − 0 57·8 | ............ | +79 58 18·3 |
| | Groombridge 1151 | 24·8 | 27·2 | −0·4 | 11 59 25·6 | ...... | ...... | ...... | ...... | − 0 24·3 | ............ | +78 6 26·1 |
| | 10 Monocerotis | 51·1 | 51·7 | +0·3 | 94 43 51·7 | ...... | ...... | ...... | ...... | + 1 45·9 | ............ | − 4 40 10·2 |
| | δ Ursæ Minoris S.P. | 34·2 | 37·1 | −0·6 | 356 41 35·0 | ...... | ...... | ...... | ...... | − 0 45·8 | ............ | +86 35 21·8 |
| | ν² Canis Majoris | 19·1 | 18·2 | +0·5 | 109 9 19·2 | ...... | ...... | ...... | ...... | + 3 40·1 | ............ | −19 7 31·9 |
| | ψ² Canis Majoris | 23·9 | 23·7 | +0·4 | 104 18 24·2 | ...... | 36·0 | 29·92 | 37·0 | + 2 44·5 | ............ | −14 15 41·3 |
| | (b) Nadir | 0·8<br>4·8 | 3·9<br>8·0 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 5·1<br>0·1 | 8·0<br>3·9 | −0·1 | 214 8 4·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Jan. 18 | Mars Centre | 31·0 | 31·1 | +0·4 | 98 54 31·5 | ...... | 39·3 | 29·95 | 39·0 | + 2 5·7 | 3·2 | − 8 51 10·8 |
| | α Pegasi | 2·2 | 4·8 | +0·1 | 75 43 3·6 | ...... | ...... | ...... | ...... | + 0 52·8 | ............ | +14 21 30·0 |
| | (c) Moon South Limb | 36·3 | ...... | +0·1 | 80 22 37·4 | − 8·4 | ...... | ...... | ...... | + 1 2·1 | ............ | + 9 41 55·3 |
| | (d) ...................... | ...... | 29·1 | +0·1 | 80 22 28·0 | + 0·4 | ...... | ...... | ...... | + 1 2·1 | ............ | + 9 41 55·9 |
| | (e) ...................... | 18·6 | 20·8 | +0·1 | 80 22 19·7 | + 8·6 | ...... | ...... | ...... | + 1 2·1 | ............ | + 9 41 56·0 |
| | (f) α Ursæ Minoris | 28·0 | 31·0 | −0·5 | 1 37 28·9 | + 5·7 | 39·0 | 29·97 | 39·4 | − 0 38·0 | ............ | +88 28 29·8 |
| | 10 Monocerotis | 51·4 | 52·2 | +0·3 | 94 43 52·1 | ...... | 40·9 | 30·00 | 40·7 | + 1 45·1 | ............ | − 4 40 10·8 |
| | (g) Nadir | 58·9<br>64·0 | 63·0<br>67·6 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 63·8<br>59·0 | 67·8<br>63·0 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ε Canis Majoris | 45·0 | 46·0 | +0·5 | 118 41 46·0 | ...... | 40·5 | 29·99 | 40·5 | + 9 24·5 | ............ | −28 45 44·1 |
| Jan. 19 | α Cephei | 20·4 | 24·0 | −0·1 | 28 10 22·1 | ...... | 43·5 | 29·84 | 42·0 | − 0 6·0 | 3·5 | +61 55 10·6 |
| | (h) α Andromedæ | 37·2 | 38·8 | +0·1 | 61 51 38·1 | + 0·1 | ...... | ...... | ...... | + 0 30·9 | ............ | +28 13 17·6 |
| | (i) Moon South Limb | 41·5 | ...... | +0·1 | 75 17 42·8 | −11·0 | ...... | ...... | ...... | + 0 51·3 | ............ | +14 47 3·6 |
| | (k) ...................... | ...... | 37·1 | +0·1 | 75 17 35·8 | − 2·3 | ...... | ...... | ...... | + 0 51·3 | ............ | +14 47 1·9 |
| | (l) ...................... | 28·2 | 30·8 | +0·1 | 75 17 29·5 | + 5·7 | 43·6 | 29·83 | 42·0 | + 0 51·3 | ............ | +14 47 0·2 |
| | 46 Tauri | 48·6 | 49·0 | +0·2 | 82 45 49·0 | ...... | 42·9 | 29·82 | 42·5 | + 1 6·7 | ............ | + 7 18 31·0 |
| | (m) 88 Tauri | 27·9 | 29·1 | +0·1 | 80 14 28·6 | + 0·1 | ...... | ...... | ...... | + 1 1·0 | ............ | + 9 49 57·0 |
| | α Aurigæ | 15·4 | 18·8 | 0·0 | 44 15 17·1 | ...... | ...... | ...... | ...... | + 0 10·5 | ............ | +45 49 59·1 |
| | β Tauri | 44·2 | 46·0 | +0·1 | 61 36 45·2 | ...... | 42·8 | 29·81 | 41·9 | + 0 30·6 | ............ | +28 28 10·9 |
| | α Orionis | 0·1 | 1·7 | +0·2 | 82 42 1·1 | ...... | ...... | ...... | ...... | + 1 6·5 | ............ | + 7 22 19·1 |
| Jan. 20 | Sun South Limb | 26·7 | 25·1 | +0·5 | 110 26 26·4 | ...... | 41·8 | 29·71 | 41·2 | + 3 56·4 | 3·8 | −20 24 55·8 |
| | (m) Mars Centre | 4·9 | 6·8 | +0·3 | 98 18 6·2 | + 0·2 | 41·2 | 29·68 | 40·9 | + 2 0·7 | ............ | − 8 14 40·1 |
| | (h) α Pegasi | 3·1 | 6·2 | +0·1 | 75 43 4·8 | + 0·1 | ...... | ...... | ...... | + 0 52·1 | ............ | +14 21 30·0 |
| | γ Cephei | 23·0 | 25·0 | −0·4 | 13 20 23·6 | ...... | ...... | ...... | ...... | − 0 22·3 | ............ | +76 45 25·7 |
| | α Andromedæ | 38·2 | 39·0 | +0·1 | 61 51 38·7 | ...... | 40·0 | 29·68 | 40·7 | + 0 30·9 | ............ | +28 13 17·4 |

(a) At $5^h 3^m 40^s$.
(b) At $6^h 50^m$.
(c) At $0^h 46^m 48^s$.

(d) At $0^h 47^m 29^s$.
(e) At $0^h 48^m 6^s$.
(f) At $0^h 52^m 36^s$.

(g) At $6^h 40^m$.
(h) Wire IV.
(i) At $1^h 35^m$.

(k) At $1^h 35^m 45^s$.
(l) At $1^h 36^m 25^s$.
(m) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Jan. 20 | 59 Piscium | 40·0 | 39·3 | +0·1 | 71 21 39·7 | ...... | ...... | ...... | ...... | + 0 44·7 | 304 8 3·8 | +18 43 2·6 |
| | 66 Piscium | 42·0 | 42·0 | +0·1 | 71 44 42·1 | ...... | ...... | ...... | ...... | + 0 45·3 | ............ | +18 19 59·6 |
| | μ Andromedæ | 22·4 | 23·9 | +0·1 | 52 26 23·2 | ...... | ...... | ...... | ...... | + 0 19·5 | ............ | +37 38 44·3 |
| | (a) α Ursæ Minoris | 27·5 | 30·1 | −0·5 | 1 37 28·2 | + 6·1 | ...... | ...... | ...... | − 0 37·5 | ............ | +88 28 30·2 |
| | (b) Moon South Limb | 23·9 | ...... | +0·1 | 70 47 25·0 | − 7·7 | ...... | ...... | ...... | + 0 44·0 | ............ | +19 17 25·7 |
| | (c) ...................... | ...... | 19·1 | +0·1 | 70 47 18·2 | − 0·3 | ...... | ...... | ...... | + 0 44·0 | ............ | +19 17 25·1 |
| | (d) ...................... | 9·5 | 11·5 | +0·1 | 70 47 10·6 | − 7·5 | 37·0 | 29·67 | 39·4 | + 0 44·0 | ............ | +19 17 24·9 |
| | γ Ceti | 2·0 | 4·0 | +0·2 | 87 30 3·2 | ...... | ...... | ..... | ...... | + 1 19·5 | ............ | + 2 34 4·3 |
| | 88 Tauri | 27·0 | 29·1 | +0·1 | 80 14 28·2 | ...... | ...... | ...... | ...... | + 1 1·5 | ............ | + 9 49 57·3 |
| | 51 Eridani | 27·9 | 30·0 | +0·3 | 92 51 29·2 | ...... | 35·8 | 29·66 | 38·2 | + 1 37·4 | ............ | − 2 47 39·6 |
| | 59 Eridani | 9·5 | 10·0 | +0·4 | 106 39 10·2 | ...... | ...... | ...... | ...... | + 3 6·2 | ............ | −16 36 49·4 |
| | 62 Eridani | 11·5 | 13·5 | +0·3 | 95 29 12·8 | ...... | ...... | ...... | ...... | + 1 48·2 | ............ | − 5 25 34·0 |
| | η Aurigæ | 9·5 | 13·0 | +0·1 | 49 4 11·4 | ...... | ...... | ...... | ...... | + 0 15·8 | ............ | +41 0 59·8 |
| | λ Eridani | 0·5 | 2·0 | +0·4 | 99 1 1·6 | ...... | ...... | ...... | ...... | + 2 5·9 | ............ | − 8 57 40·5 |
| | Piazzi IV. 311 | 15·0 | 17·9 | −0·4 | 11 57 16·0 | ...... | ...... | ...... | ...... | − 0 24·2 | ............ | +78 8 35·2 |
| | Groomb. 2427 S.P. | 58·0 | 61·8 | −0·5 | 345 36 59·4 | ..... | ...... | ...... | ...... | − 1 7·0 | ............ | +75 30 25·4 |
| | A.S.C. 626 | 22·9 | 22·2 | +0·4 | 103 44 23·0 | ...... | ...... | ...... | ...... | + 2 38·3 | ............ | −13 41 34·3 |
| | 22 Orionis | 31·3 | 32·4 | +0·2 | 90 36 32·0 | ...... | ...... | ...... | ..... | + 1 29·4 | ............ | − 0 32 34·4 |
| | β Tauri | 44·1 | 45·0 | +0·1 | 61 36 44·6 | ..... | ...... | ...... | ...... | + 0 30·9 | ............ | +28 28 11·5 |
| | A.S.C. 658 | 20·7 | 20·2 | +0·4 | 102 5 20·8 | ...... | 35·9 | 29·66 | 38·1 | + 2 25·4 | ............ | −12 2 19·2 |
| | δ Orionis | 13·5 | 14·0 | +0·2 | 90 29 14·0 | ...... | ...... | ...... | ...... | + 1 28·9 | ............ | − 0 25 15·9 |
| | ε Orionis | 23·2 | 24·0 | +0·2 | 91 22 23·7 | ...... | ...... | ...... | ...... | + 1 31·9 | ............ | − 1 18 28·6 |
| | σ Orionis | 36·0 | 37·4 | +0·3 | 92 45 37·0 | ...... | ...... | ...... | ...... | + 1 37·0 | ............ | − 2 41 47·0 |
| | 134 Tauri | 43·0 | 45·8 | +0·1 | 77 28 44·5 | ...... | ...... | ...... | ...... | + 0 55·9 | ............ | +12 35 46·6 |
| | α Orionis | 59·4 | 60·0 | +0·2 | 82 41 59·9 | ...... | ...... | ...... | ...... | + 1 7·1 | ............ | + 7 22 20·0 |
| | 60 Orionis | 0·7 | 2·1 | +0·2 | 89 32 1·6 | ...... | ...... | ...... | ...... | + 1 25·8 | ............ | + 0 31 59·6 |
| | (e) 40 Camelopardi | 20·2 | 21·2 | −0·1 | 30 3 20·6 | + 1·2 | ...... | ...... | ...... | − 0 4·2 | ............ | +60 2 9·4 |
| | 75 Orionis | 44·0 | 45·9 | +0·1 | 80 4 45·1 | ...... | ...... | ...... | ...... | − 1 1·3 | ............ | + 9 59 40·6 |
| | 40 Draconis S.P. | 30·0 | 32·5 | −0·5 | 350 4 30·8 | ...... | ...... | ...... | ...... | − 0 57·3 | ............ | +79 58 6·5 |
| | Groombridge 1151 | 24·5 | 26·0 | −0·4 | 11 59 24·9 | ...... | ...... | ...... | ...... | − 0 24·2 | ............ | +78 6 26·3 |
| | 10 Monocerotis | 52·7 | 53·0 | +0·3 | 94 43 53·2 | ...... | ...... | ...... | ...... | + 1 45·1 | ............ | − 4 40 11·3 |
| | 51 (Hev.) Cephei | 10·7 | 12·9 | −0·5 | 2 50 11·3 | ...... | 35·0 | 29·65 | 37·8 | − 0 36·1 | ............ | +87 15 51·8 |
| | ν² Canis Majoris | 22·1 | 21·8 | +0·5 | 109 9 22·5 | ...... | ...... | ...... | ...... | + 3 38·5 | ............ | −19 7 34·0 |
| | ψ² Canis Majoris | 25·0 | 23·9 | +0·4 | 104 18 24·9 | ...... | ...... | ...... | ...... | + 2 43·3 | .. ......... | −14 15 41·2 |
| | ι Canis Majoris | 33·0 | 32·9 | +0·4 | 106 53 33·4 | ...... | ...... | ...... | ...... | + 3 9·3 | ............ | −16 51 15·7 |
| | ε Canis Majoris | 43·5 | 44·0 | +0·5 | 118 41 44·2 | ...... | ...... | ...... | ...... | + 9 25·7 | ............ | −28 45 42·9 |
| | (e) γ Canis Majoris | 51·8 | 50·4 | +0·4 | 105 26 51·5 | − 0.2 | 34·6 | 29·66 | 37·4 | + 2 54·3 | ............ | −15 24 18·6 |
| | (f) Nadir | 0·0<br>4·2 | 3·4<br>8·0 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 64·9<br>59·0 | 68·2<br>63·6 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | . .......... | ............ |
| | Venus Centre | 51·8 | 51·4 | +0·5 | 112 24 52 1 | ...... | 35·6 | 29·64 | 37·8 | + 4 38·9 | 4·0 | −22 24 3·8 |
| Jan. 21 | Sun North Limb | 54·1 | 52·5 | +0·5 | 109 40 53·8 | ...... | 36·8 | 29·62 | 38·0 | + 3 45·7 | ............ | −19 39 12·3 |
| | α Cephei | 20·9 | 23·7 | −0·1 | 28 10 22·2 | ...... | 37·5 | 29·62 | 38·6 | − 0 6·1 | ............ | +61 55 11·1 |
| | Mars Centre | 46·8 | 46·8 | +0·3 | 97 59 47·1 | ...... | 38·0 | 29·61 | 38·7 | + 1 59·6 | ............ | − 7 56 19·5 |
| | γ Cephei | 23·0 | 25·0 | −0·4 | 13 20 23·6 | ...... | ...... | ...... | ...... | − 0 22·4 | ............ | +76 45 26·0 |
| | α Andromedæ | 38·8 | 39·2 | +0·1 | 61 51 39·1 | ...... | ...... | ...... | ...... | + 0 31·0 | ......... ... | +28 13 17·1 |
| | α Cassiopeæ | 54·4 | 55·9 | 0·0 | 34 24 55·2 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 40 31·7 |
| | φ¹ Ceti | 21·0 | 20·7 | +0·4 | 101 31 21·2 | ...... | ...... | ...... | ...... | + 2 20·7 | ............ | −11 28 14·7 |
| | ζ Andromedæ | 13·2 | 14·0 | +0·1 | 66 40 13·7 | ...... | ...... | ...... | ...... | + 0 37·6 | ............ | +23 24 35·9 |
| | (g) φ³ Ceti | 27·0 | 25·9 | +0·4 | 102 10 26·8 | − 0·4 | 38·0 | 29·61 | 39·0 | + 2 25·2 | ............ | −12 7 24·4 |
| | (h) 27 Ceti | 40·6 | 39·4 | +0·4 | 100 52 40·5 | 0·0 | ...... | ...... | ...... | + 2 16·5 | ............ | −10 49 29·8 |
| Jan. 22 | (i) Moon South Limb | 32·1 | ...... | +0·1 | 64 56 32·8 | − 1·2 | ...... | ...... | ...... | + 0 34·5 | 4·3 | +25 8 21·4 |

(a) At $0^h\ 52^m\ 10^s$.
(b) At $2^h\ 27^m\ 30^s$.
(c) At $2^h\ 28^m\ 16^s$.

(d) At $2^h\ 29^m$.
(e) Wire V.
(f) At $7^h\ 10^m$.

(g) $1^m$ after transit.
(h) Wire IV.
(i) At $4^h\ 27^m\ 12^s$.

| Date. | Object Observed. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Jan. 22 | (a) Moon South Limb | ...... | 30·9 | +0·1 | 64 56 30·4 | + 0·8 | ...... | ...... | ...... | + 0 34·5 | 304 8 4·3 | +25 8 21·8 |
| | (b) | 28·2 | 29·4 | +0·1 | 64 56 28·9 | + 3·1 | 36·0 | 28·91 | 37·1 | + 0 34·5 | ............ | +25 8 21·0 |
| | (c) 62 Eridani | 15·0 | 16·0 | +0·3 | 95 29 15·8 | 0·0 | ...... | ...... | ...... | + 1 45·4 | ............ | − 5 25 33·7 |
| | ι Tauri | 9·1 | 11·5 | +0·1 | 68 43 10·4 | ...... | ...... | ...... | ...... | + 0 39·8 | ............ | +21 21 37·3 |
| | η Aurigæ | 10·0 | 13·0 | +0·1 | 49 4 11·6 | ...... | ...... | ...... | ...... | + 0 15·4 | ............ | +41 1 0·5 |
| | β Eridani | 24·9 | 24·6 | +0·3 | 95 21 25·0 | ...... | ...... | ...... | ...... | + 1 44·9 | ............ | − 5 17 42·4 |
| | ε Ursæ Minoris S.P. | 7·3 | 11·0 | −0·5 | 352 23 8·7 | ...... | ...... | ...... | ...... | − 0 51·6 | ............ | +82 16 49·6 |
| | β Tauri | 45·7 | 46·0 | +0·1 | 61 36 45·9 | ...... | 35·4 | 28·90 | 36·7 | + 0 30·1 | ............ | +28 28 11·5 |
| | 134 Tauri | 44·3 | 47·1 | +0·1 | 77 28 45·8 | ...... | ...... | ...... | ...... | + 0 54·6 | ............ | +12 35 47·1 |
| | α Orionis | 0·0 | 1·5 | +0·2 | 82 42 0·9 | ...... | ...... | ...... | ...... | + 1 5·5 | ............ | + 7 22 21·1 |
| | (d) Nadir | 0·9<br>6·0 | 3·1<br>8·3 | −0·1 | 214 8 4·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 5·5<br>0·3 | 8·0<br>3·2 | −0·1 | 214 8 4·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| Jan. 24 | (e) ε Ursæ Minoris S.P. | 8·9 | 12·1 | −0·5 | 352 23 10·0 | − 0·2 | ...... | ...... | ...... | − 0 51·8 | 4·2 | +82 16 50·6 |
| | (c) α Aurigæ | 15·7 | 17·0 | 0·0 | 44 15 16·3 | + 0·7 | ...... | ...... | ...... | + 0 10·4 | ............ | +45 50 0·0 |
| | 21 Orionis | 31·2 | 32·0 | +0·2 | 87 38 31·8 | ...... | 33·0 | 28·86 | 35·8 | + 1 18·4 | | + 2 25 37·2 |
| | δ Orionis | 16·2 | 16·2 | +0·2 | 90 29 16·4 | ...... | ...... | ...... | ...... | + 1 27·1 | ............ | − 0 25 16·1 |
| | ε Orionis | 24·4 | 24·8 | +0·2 | 91 22 24·7 | ...... | ...... | ...... | ...... | + 1 30·3 | ............ | − 1 18 27·6 |
| | ω Orionis | 37·2 | 37·1 | +0·2 | 86 2 37·4 | ...... | ...... | ...... | ...... | + 1 14·0 | ............ | + 4 1 36·0 |
| | ξ Aurigæ | 34·2 | 34·5 | 0·0 | 34 25 34·3 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 39 52·8 |
| | 1 Geminorum | 47·5 | 49·0 | +0·1 | 66 48 48·4 | ...... | ...... | ...... | ...... | + 0 37·3 | ............ | +23 16 1·7 |
| | 40 Camelopardi | 19·1 | 21·1 | −0·1 | 30 3 20·0 | ...... | 31·6 | 28·82 | 35·8 | − 0 4·2 | ............ | +60 2 11·6 |
| | 75 Orionis | 44·3 | 46·2 | +0·1 | 80 4 45·4 | ...... | ...... | ...... | ...... | + 1 0·1 | ............ | + 9 59 41·9 |
| | μ Geminorum | 27·5 | 28·5 | +0·1 | 67 29 28·1 | ...... | ...... | ...... | ...... | + 0 38·3 | ............ | +22 35 21·0 |
| | Groombridge 1151 | 23·7 | 25·0 | −0·4 | 11 59 24·0 | ...... | ...... | ...... | ...... | − 0 23·7 | ............ | +78 6 27·1 |
| | δ Ursæ Minoris S.P. | 32·3 | 35·0 | −0·6 | 356 41 33·0 | ...... | ...... | ...... | ...... | − 0 44·5 | ............ | +86 35 21·1 |
| | (f) Moon North L. | 37·4 | ...... | +0·1 | 65 19 37·6 | + 3·8 | ...... | ...... | ...... | + 0 35·2 | ............ | +24 45 10·8 |
| | (g) | ...... | 40·9 | +0·1 | 65 19 41·0 | + 0·1 | ...... | ...... | ...... | + 0 35·2 | ............ | +24 45 11·1 |
| | (h) | 43·2 | 43·3 | +0·1 | 65 19 43·4 | − 3·0 | ...... | ...... | ...... | + 0 35·2 | ............ | +24 45 11·8 |
| | Venus Centre | 52·2 | 53·0 | +0·5 | 111 42 53·1 | ...... | 37·9 | 29·08 | 38·0 | + 4 17·3 | 4·2 | −21 41 43·0 |
| Jan. 25 | Sun South Limb | 16·0 | 15·0 | +0·5 | 109 17 16·0 | ...... | 38·0 | 29·09 | 38·5 | + 3 35·1 | ............ | −19 15 23·7 |
| | β Cephei | 27·1 | 29·1 | −0·3 | 20 13 27·8 | ...... | 39·0 | ...... | ...... | − 0 14·3 | ............ | +69 52 13·9 |
| | α Pegasi | 5·0 | 7·1 | +0·1 | 75 43 6·2 | ...... | 39·0 | 29·15 | 39·5 | + 0 51·4 | ............ | +14 21 29·8 |
| | Mars Centre | 55·5 | 57·2 | +0·3 | 96 45 56·6 | ...... | ...... | ...... | ...... | + 1 51·5 | ............ | − 6 42 20·7 |
| | γ Cephei | 23·5 | 26·0 | −0·4 | 13 20 24·3 | ...... | ...... | ...... | ...... | + 0 22·0 | ............ | +76 45 25·1 |
| | α Andromedæ | 40·0 | 40·2 | +0·1 | 61 51 40·2 | ...... | 38·8 | 29·17 | 39·6 | + 0 30·5 | ............ | +28 13 16·7 |
| | (i) α Ursæ Minoris | 28·3 | 31·4 | −0·5 | 1 36 29·3 | +64·0 | ...... | ...... | ...... | − 0 37·0 | ............ | +88 28 31·1 |
| | α Cassiopeæ | 54·0 | 56·0 | 0·0 | 34 24 55·0 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 40 32·1 |
| | φ¹ Ceti | 21·8 | 21·4 | +0·4 | 101 31 22·0 | ...... | ...... | ...... | ...... | + 2 18·2 | ............ | −11 28 12·8 |
| | ζ Andromedæ | 13·2 | 14·7 | +0·1 | 66 40 14·0 | ...... | ...... | ...... | ...... | + 0 37·0 | ............ | +23 24 36·4 |
| | φ² Ceti | 52·9 | 52·0 | +0·4 | 101 32 52·9 | ...... | ...... | ...... | ...... | + 2 18·5 | ............ | −11 29 44·0 |
| | 66 Piscium | 43·5 | 43·6 | +0·1 | 71 44 43·7 | ...... | ...... | ...... | ...... | + 0 44·7 | ............ | +18 19 59·0 |
| | (k) φ³ Ceti | 25·6 | 24·7 | +0·4 | 102 10 25·5 | 0·0 | ...... | ...... | ...... | + 2 23·3 | ............ | −12 7 21·4 |
| | 27 Ceti | 44·5 | 43·0 | +0·4 | 100 52 44·2 | ...... | ...... | ...... | ...... | + 2 14·2 | ............ | −10 49 31·0 |
| | (k) 30 Ceti | 8·1 | 8·6 | +0·4 | 100 41 8·7 | 0·0 | ...... | ...... | ...... | + 2 13·6 | ............ | −10 37 54·9 |
| | α Ursæ Minoris | 32·1 | 35·8 | −0·5 | 1 37 33·5 | ...... | 37·5 | 29·20 | 38·9 | − 0 37·0 | ............ | +88 28 30·9 |
| | 88 Tauri | 29·0 | 29·1 | +0·1 | 80 14 29·2 | ...... | ...... | ...... | ...... | + 1 0·3 | ............ | + 9 49 57·9 |
| | 51 Eridani | 29·4 | 30·7 | +0·3 | 92 51 30·3 | ...... | 37·2 | 29·24 | 37·7 | + 1 35·8 | ............ | − 2 47 38·7 |
| | ε Ursæ Minoris S.P. | 7·5 | 10·2 | −0·5 | 352 23 8·4 | ...... | ...... | ...... | ...... | − 0 52·0 | ............ | +82 16 49·0 |
| | (k) α Aurigæ | 15·5 | 17·6 | 0·0 | 44 15 16·5 | + 0·2 | ...... | ...... | ...... | + 0 10·4 | ............ | +45 50 0·3 |
| | δ Orionis | 14·7 | 15·1 | +0·2 | 90 29 15·1 | ...... | ...... | ...... | ...... | + 1 27·4 | ............ | − 0 25 15·1 |
| | (c) ε Orionis | 24·4 | 24·8 | +0·2 | 91 22 24·7 | 0·0 | ...... | ...... | ...... | + 1 30·4 | ............ | − 1 18 27·7 |

(a) At $4^h 27^m 46^s$.
(b) At $4^h 28^m 20^s$.
(c) Wire V.

(d) At $7^h 15^m$.
(e) At $5^h 3^m 35^s$.
(f) At $6^h 41^m 0^s$.

(g) At $6^h 41^m 34^s$.
(h) At $6^h 42^m 8^s$.

(i) At $0^h 28^m 0^s$.
(k) Wire IV.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Jan. 25 | ω Orionis | 37·0 | 36·7 | +0·2 | 86 2 37·1 | ...... | 36·8 | 29·23 | 37·9 | + 1 14·4 | 304 8 4·2 | + 4 1 35·9 |
| | ξ Aurigæ | 33·8 | 33·9 | 0·0 | 34 25 33·8 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 39 53·3 |
| | 60 Orionis | 2·2 | 3·8 | +0·2 | 89 32 3·2 | ...... | ...... | ...... | ...... | + 1 24·4 | ............ | + 0 31 59·8 |
| | 4 Monocerotis | 50·7 | 50·9 | +0·4 | 101 10 51·2 | ...... | ...... | ...... | ...... | + 2 17·0 | ............ | −11 7 40·8 |
| | μ Geminorum | 26·4 | 28·0 | +0·1 | 67 29 27·3 | ...... | ...... | ...... | ...... | + 0 38·4 | ............ | +22 35 21·7 |
| | 78 Orionis | 10·8 | 11·7 | +0·2 | 90 15 11·4 | ...... | ...... | ...... | ...... | + 1 26·7 | ............ | − 0 11 10·7 |
| | δ Ursæ Minoris S.P. | 31·0 | 33·9 | −0·6 | 356 41 31·8 | ...... | ...... | ...... | ...... | − 0 44·7 | ............ | +86 35 19·7 |
| | 51 (Hev.) Cephei | 7·2 | 10·8 | −0·5 | 2 50 8·5 | ...... | ...... | ...... | ...... | − 0 35·5 | ............ | +87 15 54·4 |
| | (a) ν² Canis Majoris | 28·8 | 27·7 | +0·5 | 109 9 28·8 | − 0·7 | 35·9 | 29·24 | 37·7 | + 3 35·2 | ............ | −19 7 35·9 |
| | (b) ψ² Canis Majoris | 28·6 | 29·1 | +0·4 | 104 18 29·3 | − 0·1 | ...... | ...... | ...... | + 2 40·8 | ............ | −14 15 42·6 |
| | ι Canis Majoris | 37·5 | 36·8 | +0·4 | 106 53 37·6 | ...... | ...... | ...... | ...... | + 3 6·4 | ............ | −16 51 16·6 |
| | ε Canis Majoris | 49·6 | 49·0 | +0·5 | 118 41 49·8 | ...... | ...... | ...... | ...... | + 9 18·7 | ............ | −28 45 41·1 |
| | γ Canis Majoris | 52·9 | 51·4 | +0·4 | 105 26 52·5 | ...... | ...... | ...... | ...... | + 2 51·3 | ............ | −15 24 16·4 |
| | δ Geminorum | 45·7 | 46·1 | +0·1 | 67 48 46·0 | ...... | ...... | ...... | ...... | + 0 39·0 | ............ | +22 16 2·4 |
| | 59 Draconis S.P. | 58·0 | 62·8 | −0·5 | 346 23 59·9 | ...... | ...... | ...... | ...... | − 1 4·3 | ............ | +76 17 28·2 |
| | β Canis Minoris | 16·8 | 18·2 | +0·1 | 81 28 17·6 | ...... | ...... | ...... | ...... | + 1 3·4 | ............ | + 8 36 6·4 |
| | ϰ Geminorum | 36·0 | 37·4 | +0·1 | 65 18 36·8 | ...... | ...... | ...... | ...... | + 0 35·4 | ............ | +24 46 15·2 |
| | (c) Moon North Limb | 9·0 | ...... | +0·1 | 68 46 9·9 | +13·1 | ...... | ...... | ...... | + 0 40·3 | ............ | +21 18 24·1 |
| | (d) ........................ | ...... | 17·1 | +0·1 | 68 46 16·3 | + 5·2 | ...... | ...... | ...... | + 0 40·3 | ............ | +21 18 25·6 |
| | (e) ........................ | 22·5 | 24·2 | +0·1 | 68 46 23·4 | − 2·0 | 36·7 | 29·21 | 37·8 | + 0 40·3 | ............ | +21 18 25·7 |
| | (f) Nadir | 0·0<br>4·8 | 4·0<br>8·4 | −0·1 | 214 8 4·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ........................ | 4·8<br>0·0 | 8·5<br>4·2 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Jan. 26 | (g) Moon South Limb | 14·7 | ...... | +0·1 | 74 26 15·1 | + 5·5 | ...... | ...... | ...... | + 0 48·6 | 4·4 | +15 38 18·4 |
| | (h) ........................ | ...... | 24·9 | +0·1 | 74 26 24·6 | − 3·9 | ...... | ...... | ...... | + 0 48·6 | ............ | +15 38 18·3 |
| | (i) ........................ | 31·5 | 32·2 | +0·1 | 74 26 31·9 | −12·2 | 36·7 | 28·68 | 37·2 | + 0 48·6 | ............ | +15 38 19·3 |
| | Venus Centre | 54·9 | 56·8 | +0·5 | 111 17 56·4 | ...... | 38·1 | 29·11 | 38·5 | + 4 9·1 | 4·5 | −21 16 37·8 |
| Jan. 27 | Sun North Limb | 42·2 | 41·5 | +0·4 | 108 14 42·3 | ...... | 38·5 | 29·13 | 38·8 | + 3 21·0 | ............ | −18 12 35·6 |
| | Mercury Centre | 35·5 | 35·0 | +0·4 | 108 27 35·7 | ...... | 38·3 | ...... | ...... | + 3 23·8 | ............ | −18 25 31·8 |
| | Mars Centre | 42·0 | 43·9 | +0·3 | 96 8 43·3 | ...... | ...... | ...... | ...... | + 1 48·7 | ............ | − 6 5 4·3 |
| | γ Cephei | 23·7 | 26·6 | −0·4 | 13 20 24·7 | ...... | 37·3 | 29·18 | 38·6 | − 0 22·1 | ............ | +76 45 25·1 |
| | α Andromedæ | 39·7 | 40·6 | +0·1 | 61 51 40·2 | ...... | ...... | ...... | ...... | + 0 30·5 | ............ | +28 13 17·0 |
| | (k) α Ursæ Minoris | 30·5 | 34·5 | −0·5 | 1 36 32·0 | +62·3 | ...... | ...... | ...... | − 0 37·0 | ............ | +88 28 30·4 |
| | α Cassiopeæ | 54·2 | 56·5 | 0·0 | 34 24 55·4 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 40 32·0 |
| | (l) π Cassiopeæ | 24·2 | 26·2 | 0·0 | 43 55 25·2 | + 0·2 | ...... | ...... | ...... | + 0 10·0 | ............ | +46 9 52·3 |
| | ζ Andromedæ | 13·8 | 15·4 | +0·1 | 66 40 14·7 | ...... | ...... | ...... | ...... | + 0 37·0 | ............ | +23 24 36·0 |
| | (m) φ² Ceti | 51·8 | 51·1 | +0·4 | 101 32 51·9 | − 0·1 | ...... | ...... | ...... | + 2 18·8 | ............ | −11 29 42·9 |
| | 66 Piscium | 43·6 | 42·7 | +0·1 | 71 44 43·3 | ...... | ...... | ...... | ...... | + 0 44·7 | ............ | +18 19 59·7 |
| | (n) φ³ Ceti | 25·6 | 24·3 | +0·4 | 102 10 25·3 | − 0·1 | ...... | ...... | ...... | + 2 23·8 | ............ | −12 7 21·3 |
| | 30 Ceti | 6·8 | 7·2 | +0·4 | 100 41 ·7·4 | ...... | ...... | ...... | ...... | + 2 13·0 | ............ | −10 37 52·7 |
| | α Ursæ Minoris | 32·2 | 36·2 | −0·5 | 1 37 33·8 | ...... | 36·0 | 29·20 | 37·7 | − 0 37·2 | ............ | +88 28 31·1 |
| | 59 Eridani | 15·8 | 14·3 | +0·4 | 106 39 15·5 | ...... | 35·2 | 29·24 | 36·4 | + 3 3·9 | ............ | −16 36 51·7 |
| | 10 Orionis | 3·5 | 4·8 | +0·2 | 88 36 4·3 | ...... | ...... | ...... | ...... | + 1 21·9 | ............ | + 1 28 1·5 |
| | 66 Eridani | 59·9 | 61·0 | +0·3 | 94 56 0·7 | ...... | ...... | ...... | ...... | + 1 44·4 | ............ | − 4 52 17·4 |
| | ε Ursæ Minoris S.P. | 6·0 | 9·0 | −0·5 | 352 23 7·0 | ...... | ...... | ...... | ...... | − 0 52·3 | ............ | +82 16 47·0 |
| | 21 Orionis | 28·8 | 30·5 | +0·2 | 87 38 29·9 | ...... | ...... | ...... | ...... | + 1 19·0 | ............ | + 2 25 38·8 |
| | ν Leporis | 56·9 | 56·9 | +0·4 | 102 31 57·3 | ...... | ...... | ...... | ...... | + 2 26·9 | ............ | −12 28 56·5 |
| | A.S.C. 658 | 21·8 | 20·8 | +0·4 | 102 5 21·7 | ...... | ...... | ...... | ...... | + 2 23·6 | ............ | −12 2 17·6 |
| | ω Orionis | 37·5 | 37·0 | +0·2 | 86 2 37·5 | ...... | ...... | ...... | ...... | + 1 14·6 | ............ | + 4 1 35·6 |
| | 55 Orionis | 25·8 | 26·2 | +0·3 | 97 37 26·2 | ...... | 35·2 | 29·24 | 36·3 | + 1 56·8 | ............ | − 7 33 55·3 |
| | (m) 60 Orionis | 3·2 | 4·1 | +0·2 | 89 32 3·8 | 0·0 | ...... | ...... | ...... | + 1 24·7 | ............ | + 0 31 59·2 |
| | 40 Draconis S.P. | 27·0 | 29·9 | −0·5 | 350 4 28·0 | ...... | ...... | ...... | ...... | − 0 56·6 | ............ | +79 58 3·7 |

(a) $1^m$ after transit.
(b) Wire IV.
(c) At $7^h\ 47^m\ 20^s$.
(d) At $7^h\ 48^m$.

(e) At $7^h\ 48^m\ 40^s$.
(f) At $8^h\ 0^m$.
(g) At $8^h\ 51^m\ 30^s$.

(h) At $8^h\ 52^m\ 10^s$.
(i) At $8^h\ 52^m\ 46^s$.
(k) At $0^h\ 28^m$.

(l) Wire II.
(m) Wire V.
(n) Wire IV.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Jan. 27 | μ Geminorum........ | 26·2 | 27·7 | +0·1 | 67 29 27·1 | ...... | ...... | ...... | ...... | + 0 38·5 | 304 8 4·5 | +22 35 22·1 |
|  | 78 Orionis ............ | 11·0 | 11·9 | +0·2 | 90 15 11·6 | ...... | ...... | ...... | ...... | + 1 27·0 | ............ | − 0 11 10·9 |
|  | δ Ursæ Minoris S.P. | 30·0 | 33·4 | −0·6 | 356 41 31·1 | ...... | ...... | ...... | ...... | − 0 44·8 | ............ | +86 35 18·6 |
|  | 51 (Hev.) Cephei..... | 7·9 | 10·9 | −0·5 | 2 50 8·9 | ...... | ...... | ...... | ...... | − 0 35·6 | ............ | +87 15 54·4 |
|  | 15 Lyncis............... | 7·4 | 10·0 | −0·1 | 31 28 8·6 | ...... | 35·5 | 29·25 | 36·4 | − 0 2·7 | ............ | +58 37 21·8 |
|  | ε Canis Majoris....... | 51·1 | 51·0 | +0·5 | 118 41 51·5 | ...... | ...... | ...... | ...... | + 9 19·4 | ............ | −28 45 43·2 |
|  | γ Canis Majoris ...... | 56·9 | 56·0 | +0·4 | 105 26 56·8 | ...... | ...... | ...... | ...... | + 2 51·5 | ............ | −15 24 20·6 |
|  | 22 Monocerotis....... | 10·7 | 11·8 | +0·2 | 90 18 11·5 | ...... | ...... | ...... | ...... | + 1 27·2 | ............ | − 0 14 11·0 |
|  | Piazzi VI. 334 ....... | 51·2 | 53·8 | −0·5 | 8 53 52·0 | ... .. | ...... | ...... | ...... | − 0 27·6 | ............ | +81 12 3·3 |
|  | 59 Draconis S.P...... | 56·5 | 60·9 | −0·5 | 346 23 58·2 | ...... | ...... | ...... | ...... | − 1 4·4 | ............ | +76 17 26·1 |
|  | β Canis Minoris ...... | 16·7 | 18·4 | +0·1 | 81 28 17·7 | ...... | ...... | ...... | ...... | + 1 3·5 | ............ | + 8 36 6·5 |
|  | α² Geminorum........ | 19·0 | 19·0 | +0·1 | 57 51 19·1 | ...... | 34·9 | 29·26 | 36·1 | + 0 25·8 | ............ | +32 13 42·8 |
|  | λ Ursæ Minoris S.P. | 16·1 | 18·6 | −0·6 | 358 56 16·7 | ...... | 34·4 | 29·27 | 35·5 | − 0 41·4 | ............ | +88 50 7·6 |
|  | (a) Nadir................ | 1·1<br>5·7 | 4·0<br>8·5 | −0·1 | 214 8 4·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ...................... | 5·0<br>0·9 | 8·2<br>3·5 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ξ Leonis................ | 52·0 | 53·1 | +0·1 | 78 4 52·7 | ...... | 34·7 | 29·26 | 35·6 | + 0 56·5 | ............ | +11 59 38·5 |
|  | ο Leonis ................ | 6·8 | 8·7 | +0·1 | 79 28 7·9 | ...... | ...... | ...... | ...... | + 0 59·3 | ............ | +10 36 20·5 |
|  | (b) Moon South Limb ... | 29·5 | ...... | +0·1 | 80 40 30·7 | +11·0 | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 23 44·1 |
|  | (c) ........................ | ...... | 42·1 | +0·1 | 80 40 41·1 | 0·0 | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 23 44·7 |
|  | (d) ........................ | 50·9 | 53·1 | +0·1 | 80 40 52·1 | −10·8 | 34·9 | 29·27 | 35·8 | + 1 1·9 | ............ | + 9 23 44·5 |
|  | Venus Centre ........ | 26·4 | 26·2 | +0·5 | 111 4 26·8 | ...... | 36·9 | 29·39 | 37·5 | + 4 7·7 | 4·2 | −21 3 7·1 |
| Jan. 28 | Sun South Limb ..... | 28·6 | 26·9 | +0·4 | 108 31 28·1 | ...... | 37·0 | 29·39 | 37·8 | + 3 26·9 | ............ | −18 29 27·6 |
|  | β Cephei ............... | 27·5 | 30·0 | −0·3 | 20 13 28·5 | ...... | ...... | ...... | ...... | − 0 14·5 | ............ | +69 52 13·4 |
|  | Mars Centre........... | 0·0 | 1·0 | +0·3 | 95 50 0·8 | ...... | 38·0 | 29·43 | 38·4 | + 1 48·4 | ............ | − .5 46 21·8 |
|  | (e) α Ursæ Minoris ...... | 31·6 | 35·1 | −0·5 | 1 36 33·3 | +62·3 | ...... | ...... | ...... | − 0 37·4 | ............ | +88 28 29·2 |
|  | α Cassiopeæ........... | 53·3 | 54·5 | 0·0 | 34 24 53·9 | ...... | .. ... | ...... | ...... | + 0 0·3 | ............ | +55 40 33·2 |
|  | π Cassiopeæ ........... | 24·2 | 26·2 | 0·0 | 43 55 25·2 | ...... | 36·5 | 29·44 | 38·0 | + 0 10·1 | ............ | +46 9 52·1 |
|  | η Cassiopeæ ........... | 34·5 | 36·2 | −0·1 | 33 6 35·2 | ...... | ...... | ...... | ...... | − 0 1·0 | ............ | +56 58 53·2 |
|  | γ Cassiopeæ ........... | 33·5 | 33·8 | −0·1 | 30 13 33·6 | ...... | ...... | ...... | ...... | − 0 4·0 | ............ | +59 51 57·8 |
|  | 30 Ceti.................. | 6·2 | 6·7 | +0·4 | 100 41 6·8 | ...... | ...... | ...... | ...... | + 2 14·8 | ............ | −10 37 54·2 |
|  | (f) 32 Ceti.................. | 8·8 | 8·8 | +0·4 | 99 48 9·2 | 0·0 | ...... | ...... | ...... | + 2 9·4 | ............ | − 9 44 51·2 |
|  | θ¹ Ceti................... | 21·8 | 21·2 | +0·4 | 99 3 21·9 | ...... | ...... | ...... | ...... | + 2 5·1 | ............ | − 8 59 59·6 |
|  | (g) α Ursæ Minoris ...... | 20·8 | 23·4 | −0·5 | 1 37 21·5 | +12·0 | 36·1 | 29·44 | 37·5 | − 0 37·5 | ............ | +88 28 31·4 |
|  | μ Geminorum......... | 26·2 | 27·7 | +0·1 | 67 29 27·1 | ...... | 37·5 | 29·44 | 37·9 | + 0 38·6 | ............ | +22 35 21·7 |
|  | Venus Centre ......... | 18·7 | 18·8 | +0·5 | 110 50 19·2 | ...... | 38·4 | 29·74 | 38·5 | + 4 5·4 | 4·0 | −20 48 57·4 |
| Jan. 29 | Sun North Limb..... | 7·8 | 9·0 | +0·4 | 107 43 8·8 | ...... | 38·8 | 29·75 | 38·8 | + 3 18·2 | ............ | −17 40 59·8 |
|  | Mercury Centre ...... | 15·0 | 16·5 | +0·4 | 107 17 16·1 | ...... | 39·0 | ...... | ...... | + 3 12·9 | ............ | −17 15 1·8 |
|  | Mars Centre........... | 17·3 | 19·7 | +0·3 | 95 31 18·8 | ...... | 39·1 | 29·78 | 39·8 | + 1 48·1 | ............ | − 5 27 39·7 |
|  | (h) α Ursæ Minoris ...... | 35·0 | 38·3 | −0·5 | 1 36 36·1 | +59·6 | ...... | ...... | ..... | − 0 37·7 | ............ | +88 28 29·2 |
|  | α Cassiopeæ ........... | 54·8 | 56·3 | 0·0 | 34 24 55·6 | ...... | ...... | ...... | ...... | + 0 0·3 | ............ | +55 40 31·3 |
|  | π Cassiopeæ ........... | 24·3 | 26·2 | 0·0 | 43 55 25·2 | ...... | 38·2 | 29·81 | 39·9 | + 0 10·2 | ............ | +46 9 51·8 |
|  | η Cassiopeæ........... | 34·6 | 36·1 | −0·1 | 33 6 35·2 | ...... | ...... | ...... | ...... | − 0 1·1 | ............ | +56 58 53·1 |
|  | γ Cassiopeæ ........... | 33·9 | 35·6 | −0·1 | 30 13 34·7 | ...... | ...... | ...... | ...... | − 0 4·0 | ............ | +59 51 56·5 |
|  | ψ² Piscium............. | 42·8 | 42·5 | +0·1 | 70 10 42·7 | ...... | ...... | ...... | ...... | + 0 43·2 | ............ | +19 54 1·3 |
|  | θ Cassiopeæ........... | 35·7 | 37·3 | 0·0 | 35 46 36·5 | ...... | ...... | ...... | ...... | + 0 1·7 | ............ | +54 18 49·0 |
|  | (f) χ Piscium.............. | 58·2 | 59·0 | +0·1 | 69 52 58·7 | + 0·1 | ...... | ...... | ...... | + 0 42·7 | ............ | +20 11 45·7 |
|  | (i) θ¹ Ceti ................... | 19·9 | 19·2 | +0·4 | 99 3 20·0 | − 0·1 | ...... | ...... | ...... | + 2 6·2 | ............ | − 8 59 58·9 |
|  | (k) α Ursæ Minoris ...... | 18·8 | 22·4 | −0·5 | 1 37 20·0 | +15·2 | 37·2 | 29·82 | 39·0 | − 0 37·8 | ............ | +88 28 29·8 |
|  | π¹ Orionis.............. | 53·4 | 54·0 | +0·1 | 81 26 53·8 | ...... | 35·5 | 29·84 | 36·6 | + 1 4·7 | ............ | + 8 37 28·7 |
|  | ε Aurigæ............... | 2·8 | 6·0 | +0·1 | 46 30 4·5 | ...... | ...... | ...... | ...... | + 0 13·1 | ............ | +43 35 9·6 |

(a) At $8^h 40^m$.
(b) At $9^h 51^m 25^s$.
(c) At $9^h 52^m 5^s$.
(d) At $9^h 52^m 45^s$.
(e) At $0^h 28^m$.
(f) Wire IV.
(g) At $1^h 18^m 30^s$.
(h) At $0^h 28^m 45^s$.
(i) Wire V.
(k) At $1^h 19^m 20^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Jan. 29 | 66 Eridani | 58·5 | 59·5 | +0·3 | 94 55 59·3 | ...... | ...... | ...... | ...... | + 1 46·5 | 304 8 4·0 | − 4 52 18·6 |
| | ε Ursæ Minoris S.P. | 6·8 | 10·0 | −0·5 | 352 23 7·9 | ...... | ...... | ...... | ...... | − 0 53·3 | ............ | +82 16 47·4 |
| | 21 Orionis | 28·0 | 28·7 | +0·2 | 87 38 28·6 | ...... | ...... | ...... | ...... | + 1 20·6 | ............ | + 2 25 38·0 |
| | ν Leporis | 55·0 | 54·9 | +0·4 | 102 31 55·3 | ...... | ...... | ...... | ...... | + 2 29·8 | ............ | −12 28 57·9 |
| | A.S.C. 658 | 19·6 | 18·4 | +0·4 | 102 5 19·4 | ...... | ...... | ...... | ...... | + 2 26·5 | ............ | −12 2 18·7 |
| | A.S.C. 694 | 14·8 | 14·6 | +0·3 | 93 43 15·0 | ...... | ...... | ...... | ...... | + 1 41·5 | ............ | − 3 39 29·3 |
| | 55 Orionis | 24·1 | 24·9 | +0·3 | 97 37 24·7 | ...... | 34·5 | 29·83 | 36·1 | + 1 59·4 | ............ | − 7 33 56·9 |
| | (a) π Aurigæ | 12·1 | 13·5 | 0·0 | 44 10 12·8 | + 0·2 | ...... | ...... | ...... | + 0 10·6 | ............ | +45 55 3·6 |
| | 4 Monocerotis | 46·8 | 45·8 | +0·4 | 101 10 46·7 | ...... | ...... | ...... | ...... | + 2 20·6 | ............ | −11 7 40·1 |
| | 40 Draconis S.P. | 27·3 | 30·4 | −0·5 | 350 4 28·4 | ...... | ...... | ...... | ...... | − 0 57·9 | ............ | +79 58 3·3 |
| | μ Geminorum | 25·8 | 26·8 | +0·1 | 67 29 26·4 | ...... | ...... | ...... | ...... | + 0 39·4 | ............ | +22 35 21·4 |
| | 78 Orionis | 10·5 | 11·0 | +0·2 | 90 15 10·9 | ...... | ...... | ...... | ...... | + 1 28·9 | ............ | − 0 11 12·6 |
| | δ Ursæ Minoris S.P. | 30·1 | 33·0 | −0·6 | 356 41 30·9 | ...... | ...... | ...... | ...... | − 0 45·8 | ............ | +86 35 17·9 |
| | 51 (Hev.) Cephei | 8·0 | 10·9 | −0·5 | 2 50 8·9 | ...... | ...... | ...... | ...... | − 0 36·4 | ............ | +87 15 54·7 |
| | $\nu^3$ Canis Majoris | 23·3 | 22·6 | +0·4 | 108 8 23·4 | ...... | ...... | ...... | ...... | + 3 25·9 | ............ | −18 6 22·1 |
| | 15 Lyncis | 7·0 | 8·7 | −0·1 | 31 28 7·8 | ...... | 34·6 | 29·85 | 36·0 | − 0 2·8 | ............ | +58 37 22·2 |
| | ι Canis Majoris | 33·0 | 31·5 | +0·4 | 106 53 32·7 | ...... | ...... | ...... | ...... | + 3 10·8 | ............ | −16 51 16·3 |
| | ε Canis Majoris | 45·5 | 44·6 | +0·5 | 118 41 45·5 | ...... | ...... | ...... | ...... | + 9 29·5 | ............ | −28 45 47·8 |
| | (b) 19 Monocerotis | 39·9 | 40·8 | +0·3 | 94 4 40·7 | 0·0 | ...... | ...... | ...... | + 1 43·2 | ............ | − 4 0 56·7 |
| | 22 Monocerotis | 10·2 | 11·2 | +0·2 | 90 18 10·9 | ...... | ...... | ...... | ...... | + 1 29·1 | ............ | − 0 14 12·8 |
| | Piazzi VI. 334 | 51·0 | 53·5 | −0·5 | 8 53 51·8 | ...... | ...... | ...... | ...... | − 0 28·2 | ............ | +81 12 3·6 |
| | (a) η Canis Minoris | 52·4 | 52·0 | +0·2 | 82 48 52·4 | 0·0 | ...... | ...... | ...... | + 1 8·0 | ............ | + 7 15 26·8 |
| | $\alpha^2$ Geminorum | 17·9 | 18·7 | +0·1 | 57 51 18·4 | ...... | 35·0 | 29·86 | 36·0 | + 0 26·3 | ............ | +32 13 42·5 |
| | (c) Nadir | 5·2<br>0·5 | 8·6<br>3·7 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 59·1<br>65·0 | 62·7<br>68·1 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| Jan. 31 | 77 Orionis | 42·7 | 42·8 | +0·2 | 89 40 42·9 | ...... | ...... | ...... | ...... | + 1 25·5 | 3·9 | + 0 23 18·7 |
| | δ Ursæ Minoris S.P. | 29·0 | 31·9 | −0·6 | 356 41 29·8 | ...... | ...... | ...... | ...... | − 0 45·0 | ............ | +86 35 17·7 |
| | 51 (Hev.) Cephei | 6·1 | 9·5 | −0·5 | 2 50 7·3 | ...... | 37·3 | 29·53 | 38·1 | − 0 35·7 | ............ | +87 15 55·5 |
| | $\nu^3$ Canis Majoris | 25·8 | 25·5 | +0·4 | 108 8 26·1 | ...... | ...... | ...... | ...... | + 3 22·1 | ............ | −18 6 21·1 |
| | 15 Lyncis | 6·4 | 7·9 | −0·1 | 31 28 7·1 | ...... | ...... | ...... | ...... | − 0 2·7 | ............ | +58 37 22·7 |
| | μ Canis Majoris | 29·8 | 28·2 | +0·4 | 103 53 29·4 | ...... | ...... | ...... | ...... | + 2 38·0 | ............ | −13 50 40·3 |
| | (a) 19 Monocerotis | 42·1 | 42·9 | +0·3 | 94 4 42·8 | 0·0 | ...... | ...... | ...... | + 1 41·3 | ............ | − 4 0 57·0 |
| | Piazzi VI. 334 | 49·8 | 52·8 | −0·5 | 8 53 50·8 | ...... | 37·0 | ...... | ...... | − 0 27·8 | ............ | +81 12 4·1 |
| | 65 Aurigæ | 0·8 | 2·7 | +0·1 | 53 2 1·8 | ...... | ...... | ...... | ...... | + 0 20·2 | ............ | +37 3 5·1 |
| | 59 Draconis S.P. | 55·3 | 59·7 | −0·5 | 346 23 57·0 | ...... | ...... | ...... | ...... | − 1 4·8 | ............ | +76 17 25·1 |
| | η Canis Minoris | 53·0 | 53·0 | +0·2 | 82 48 53·2 | ...... | ...... | ...... | ...... | + 1 6·9 | ............ | + 7 15 27·0 |
| | $\alpha^2$ Geminorum | 18·8 | 19·1 | +0·1 | 57 51 19·0 | ...... | ...... | ...... | ...... | + 0 25·9 | ............ | +32 13 42·2 |
| | 26 Monocerotis | 37·0 | 36·4 | +0·4 | 99 14 37·1 | ...... | ...... | ...... | ...... | + 2 9·3 | ............ | − 9 11 19·3 |
| | β Geminorum | 49·6 | 50·3 | +0·1 | 61 40 50·0 | ...... | ...... | ...... | ...... | + 0 30·8 | ............ | +28 24 6·3 |
| | (a) 6 Argus | 12·1 | 11·3 | +0·4 | 106 52 12·1 | − 0·1 | 36·9 | 29·54 | 37·7 | + 3 7·5 | ............ | −16 49 52·4 |
| | (d) Nadir | 59·8<br>64·9 | 63·5<br>68·4 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 64·9<br>59·6 | 67·9<br>63·1 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| Feb. 1 | (e) λ Aurigæ | 50·9 | 53·6 | +0·1 | 50 7 52·4 | + 0·6 | ...... | ...... | ...... | + 0 16·7 | 3·6 | +39 57 17·1 |
| | ν Leporis | 59·1 | 59·0 | +0·4 | 102 31 59·4 | ...... | 43·3 | 29·58 | 42·8 | + 2 26·1 | ............ | −12 28 58·7 |
| | (e) 32 Orionis | 55·7 | 55·9 | +0·2 | 84 14 56·0 | + 0·1 | ...... | ...... | ...... | + 1 9·6 | ............ | + 5 49 21·1 |
| | (a) A.S.C. 694 | 16·8 | 17·5 | +0·3 | 93 43 17·5 | 0·0 | ...... | ...... | ...... | + 1 38·9 | ............ | − 3 39 29·6 |
| | 55 Orionis | 25·7 | 26·7 | +0·3 | 97 37 26·4 | ...... | ...... | ...... | ...... | + 1 56·2 | ............ | − 7 33 55·8 |
| | 7 Monocerotis | 11·9 | 13·3 | +0·3 | 97 49 12·9 | ...... | 43·5 | 29·55 | 43·3 | + 1 57·1 | ............ | − 7 45 43·2 |
| | (a) 77 Orionis | 42·9 | 43·6 | +0·2 | 89 40 43·4 | 0·0 | ...... | ...... | ...... | + 1 24·9 | ............ | + 0 23 18·5 |
| | δ Ursæ Minoris S.P. | 28·8 | 31·7 | −0·6 | 356 41 29·6 | ...... | ...... | ...... | ...... | − 0 44·6 | ............ | +86 35 18·2 |

(a) Wire IV.
(b) Wire III.

(c) At $7^h 40^m$.
(d) At $7^h 55^m$.

(e) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ' " | " | ° | In. | ° | ' " | ° ' " | ° ' " |
| Feb. 1 | (*a*) θ Canis Majoris | 50·5 | 50·8 | +0·4 | 101 53 51·1 | − 0·3 | ...... | ...... | ...... | + 2 21·4 | 304 8 3·6 | −11 50 45·4 |
|  | 65 Aurigæ | 0·9 | 2·8 | +0·1 | 53 2 1·9 | ...... | 42·9 | 29·52 | 43·0 | + 0 19·9 | ............ | +37 3 5·0 |
|  | η Canis Minoris | 52·3 | 52·9 | +0·2 | 82 48 52·8 | ...... | ...... | ...... | ...... | + 1 6·1 | ............ | + 7 15 27·9 |
|  | α² Geminorum | 18·2 | 19·5 | +0·1 | 57 51 18·9 | ...... | ...... | ...... | ...... | + 0 25·6 | ............ | +32 13 42·3 |
|  | 26 Monocerotis | 40·2 | 40·0 | +0·4 | 99 14 40·5 | ...... | ...... | ...... | ...... | + 2 4·9 | ............ | − 9 11 18·6 |
|  | β Geminorum | 49·2 | 50·0 | +0·1 | 61 40 49·7 | ...... | ...... | ...... | ...... | + 0 30·4 | ............ | +28 24 6·7 |
|  | ζ Canis Minoris | 15·9 | 17·5 | +0·2 | 87 54 16·9 | ...... | 43·6 | 29·52 | 43·6 | + 1 19·2 | ............ | + 2 9 50·7 |
|  | (*b*) Nadir | 59·5<br>64·0 | 62·9<br>68·0 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ...................... | 64·7<br>59·2 | 68·5<br>63·0 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | Venus Centre | 58·1 | 57·4 | +0·5 | 109 47 58·2 | ...... | 42·8 | 29·68 | 42·8 | + 3 45·1 | 3·6 | −19 46 16·5 |
| Feb. 2 | Sun South Limb | 45·0 | 44·6 | +0·4 | 107 8 45·2 | ..... | 43·0 | 29·71 | 42·8 | + 3 9·4 | ............ | −17 6 27·8 |
|  | (*c*) α Ursæ Minoris | 56·9 | 61·7 | −0·5 | 1 36 58·8 | +36·9 | ...... | ...... | ...... | − 0 37·3 | ............ | +88 28 28·4 |
|  | η Cassiopeæ | 36·0 | 36·1 | −0·1 | 33 6 35·9 | ...... | 41·5 | 29·76 | 42·0 | − 0 1·0 | ............ | +56 58 51·9 |
|  | (*d*) γ Cassiopeæ | 32·4 | 34·5 | −0·1 | 30 13 33·4 | + 1·2 | ...... | ...... | ...... | − 0 4·0 | ............ | +59 51 56·2 |
|  | (*e*) θ Cassiopeæ | 34·6 | 36·8 | 0·0 | 35 46 35·7 | + 1·4 | ...... | ...... | ...... | + 0 1·8 | ............ | +54 18 47·9 |
|  | (*f*) θ¹ Ceti | 19·6 | 19·4 | +0·4 | 99 3 19·9 | 0·0 | ...... | ...... | ...... | + 2 5·1 | ............ | − 8 59 58·2 |
|  | (*g*) α Ursæ Minoris | 5·5 | 9·2 | −0·5 | 1 37 6·8 | +28·8 | 41·0 | 29·77 | 41·8 | − 0 37·6 | ............ | +88 28 28·8 |
|  | ε Aurigæ | 2·8 | 5·5 | +0·1 | 46 30 4·2 | ...... | 39·9 | 29·83 | 40·6 | + 0 13·0 | ............ | +43 35 9·6 |
|  | (*h*) β Eridani | 21·8 | 23·2 | +0·3 | 95 21 22·8 | 0·0 | ...... | ...... | ...... | + 1 47·3 | ............ | − 5 17 43·3 |
|  | (*i*) μ Aurigæ | 30·0 | 31·4 | +0·1 | 51 47 30·7 | ...... | ...... | ...... | ...... | + 0 18·8 | ............ | +38 17 37·3 |
|  | λ Aurigæ | 51·5 | 55·0 | +0·1 | 50 7 53·4 | ...... | ...... | ...... | ...... | + 0 17·0 | ............ | +39 57 16·4 |
|  | 23 Orionis | 53·7 | 55·0 | +0·2 | 86 40 54·5 | ...... | ...... | ...... | ...... | + 1 17·1 | ............ | + 3 23 15·2 |
|  | φ Aurigæ | 50·0 | 51·7 | +0·1 | 55 44 51·0 | ...... | ...... | ...... | ...... | + 0 23·4 | ............ | +34 20 12·4 |
|  | 32 Orionis | 54·1 | 55·0 | +0:2 | 84 14 54·8 | ...... | ...... | ...... | ...... | + 1 10·7 | ............ | + 5 49 21·3 |
|  | φ¹ Orionis | 43·4 | 45·0 | +0·1 | 80 41 44·3 | ...... | ...... | ...... | ...... | + 1 2·4 | ............ | + 9 22 40·1 |
|  | (*f*) φ² Orionis | 23·5 | 24·7 | +0·1 | 80 52 24·1 | 0·0 | ...... | ...... | ...... | + 1 2·8 | ............ | + 9 11 59·9 |
|  | A.S.C. 694 | 15·8 | 15·8 | +0·3 | 93 43 16·1 | ...... | ...... | ...... | ...... | + 1 40·5 | ............ | − 3 39 29·8 |
|  | 51 Orionis | 27·8 | 29·4 | +0·2 | 88 40 28·8 | ...... | ...... | ...... | ...... | + 1 22·9 | ............ | + 1 23 35·1 |
|  | ζ Leporis | 48·0 | 47·2 | +0·4 | 104 55 48·0 | ...... | ...... | ...... | ...... | + 2 48·4 | ............ | −14 53 9·6 |
|  | 56 Orionis | 24·3 | 25·8 | +0·2 | 88 15 25·2 | ...... | ...... | ...... | ...... | + 1 21·7 | ............ | + 1 48 39·9 |
|  | δ Aurigæ | 22·9 | 23·4 | 0·0 | 35 49 23·2 | ...... | ...... | ...... | ...... | + 0 1·7 | ............ | +54 16 1·9 |
|  | (*f*) ϖ Aurigæ | 11·6 | 13·9 | 0·0 | 44 10 12·7 | 0·0 | ...... | ...... | ...... | + 0 10·5 | ............ | +45 55 3·6 |
|  | μ Orionis | 52·7 | 54·8 | +0·1 | 80 25 53·8 | ...... | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 38 31·1 |
|  | 66 Orionis | 27·2 | 27·0 | +0·2 | 85 54 27·3 | ...... | 40·0 | 29·85 | 40·6 | + 1 15·0 | ............ | + 4 9 44·5 |
|  | (*k*) Nadir | 58·9<br>64·7 | 63·2<br>68·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ...................... | 64·7<br>59·0 | 68·4<br>63·5 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | δ Ursæ Minoris S.P. | 28·5 | 32·0 | −0·6 | 356 41 29.6 | ...... | ...... | ...... | ...... | − 0 45·4 | ............ | +86 35 17·4 |
|  | ν³ Canis Majoris | 25·3 | 25·0 | +0·4 | 108 8 25·6 | ...... | 39·5 | 29·86 | 40·7 | + 3 24·0 | ............ | −18 6 22·8 |
|  | (*d*) Venus Centre | 50·9 | 50·0 | +0·5 | 109 30 50·9 | 0·0 | 42·4 | 29·97 | 42·3 | + 3 43·0 | 4·0 | −19 29 6·7 |
| Feb. 3 | Sun North Limb | 51·2 | 50·2 | +0·4 | 106 18 51·1 | ...... | 42·0 | 29·97 | 42·4 | + 3 2·1 | ............ | −16 16 26·0 |
|  | Mars Centre | 21·2 | 21·0 | +0·3 | 93 57 21·3 | ...... | 43·0 | 29·98 | 43·1 | + 1 41·3 | ............ | − 3 53 35·4 |
|  | (*l*) α Ursæ Minoris | 37·9 | 40·9 | −0·5 | 1 36 38·9 | +55·9 | 42·5 | 29·99 | 42·8 | − 0 37·7 | ............ | +88 28 30·1 |
|  | θ Cassiopeæ | 35·8 | 38·6 | 0·0 | 35 46 37·2 | ...... | ...... | ...... | ...... | + 0 1·8 | ............ | +54 18 48·2 |
|  | χ Piscium | 58·8 | 59·5 | +0·1 | 69 52 59·3 | ...... | ...... | ...... | ...... | + 0 42·6 | ............ | +20 11 45·3 |
|  | (*d*) θ¹ Ceti | 20·5 | 20·2 | +0·4 | 99 3 20·8 | − 0·1 | ...... | ...... | ...... | + 2 5·8 | ............ | − 8 59 59·3 |
|  | (*m*) α Ursæ Minoris | 54·9 | 58·3 | −0·5 | 1 36 56·1 | +40·1 | ...... | ...... | ...... | − 0 37·9 | ............ | +88 28 28·9 |
|  | Groombridge 404 | 38·0 | 40·8 | −0·4 | 12 56 39·0 | ...... | 40·8 | 30·00 | 41·9 | − 0 23·0 | ............ | +77 9 11·2 |
|  | Vesta | 44·4 | 45·3 | +0·2 | 83 16 45·0 | ...... | ...... | ...... | ...... | + 1 8·6 | ............ | + 6 47 33·6 |

(*a*) 55$^s$ after transit.
(*b*) At 7$^h$ 55$^m$.
(*c*) At 0$^h$ 35$^m$ 50$^s$.
(*d*) Wire V.
(*e*) At 1$^m$ 15$^s$ after transit.
(*f*) Wire III.
(*g*) At 1$^h$ 25$^m$ 40$^s$.
(*h*) Wire IV.
(*i*) Preceding divisions.
(*k*) At 6$^h$ 15$^m$.
(*l*) At 0$^h$ 29$^m$ 40$^s$.
(*m*) At 1$^h$ 29$^m$ 50$^s$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Feb. 3 | μ Aurigæ | 30·5 | 31·4 | +0·1 | 51 47 31·0 | ...... | 38·2 | 30·02 | 39·5 | + 0 19·0 | 304 8 4·0 | +38 17 37·2 |
| | 18 Orionis | 53·5 | 56·0 | +0·1 | 78 54 54·9 | ...... | ...... | ...... | ...... | + 0 59·3 | ............ | +11 9 33·0 |
| | 23 Orionis | 53·4 | 53·5 | +0·2 | 86 40 53·6 | ...... | ...... | ...... | ...... | + 1 17·9 | ............ | + 3 23 15·7 |
| | φ Aurigæ | 49·8 | 50·9 | +0·1 | 55 44 50·5 | ...... | ...... | ...... | ...... | + 0 23·7 | ............ | +34 20 13·0 |
| | 32 Orionis | 54·2 | 55·0 | +0·2 | 84 14 54·8 | ...... | ...... | ...... | ...... | + 1 11·4 | ............ | + 5 49 21·0 |
| | (*a*) υ Orionis | 52·0 | 52·5 | +0·3 | 97 28 52·6 | 0·0 | ...... | ...... | ...... | + 1 58·5 | ............ | − 7 25 23·9 |
| | 51 Orionis | 28·3 | 28·9 | +0·2 | 88 40 28·8 | ...... | ...... | ...... | ...... | + 1 23·7 | ............ | + 1 23 34·7 |
| | ζ Leporis | 47·7 | 45·2 | +0·4 | 104 55 46·8 | ...... | ...... | ...... | ...... | + 2 50·0 | ............ | −14 53 9·6 |
| | 56 Orionis | 23·0 | 24·2 | +0·2 | 88 15 23·8 | ...... | ...... | ...... | ...... | + 1 22·4 | ............ | + 1 48 41·0 |
| | δ Aurigæ | 22·3 | 24·0 | 0·0 | 35 49 23·2 | ...... | ...... | ...... | ...... | + 0 1·8 | ............ | +54 16 2·2 |
| | 2 Monocerotis | 44·8 | 43·2 | +0·4 | 99 37 44·4 | ...... | ...... | ...... | ...... | + 2 10·5 | ............ | − 9 34 27·7 |
| | 3 Monocerotis | 29·5 | 28·2 | +0·4 | 100 39 29·3 | ...... | ...... | ...... | ...... | + 2 16·7 | ............ | −10 36 18·8 |
| | 66 Orionis | 27·0 | 27·0 | +0·2 | 85 54 27·2 | ...... | ...... | ...... | ...... | + 1 15·7 | ............ | + 4 9 44·3 |
| | θ Leporis | 12·3 | 10·7 | +0·4 | 104 58 11·9 | ...... | ...... | ...... | ...... | + 2 50·5 | ............ | −14 55 35·2 |
| | 1 Lyncis | 56·3 | 59·2 | −0·1 | 28 31 57·6 | ...... | ...... | ...... | ...... | − 0 5·9 | ............ | +61 33 35·5 |
| | 2 Lyncis | 46·8 | 47·5 | −0·1 | 31 1 47·0 | ...... | ...... | ...... | ...... | − 0 3·2 | ............ | +59 3 43·4 |
| | 7 Monocerotis | 10·4 | 11·1 | +0·3 | 97 49 11·1 | ...... | ...... | ...... | ...... | + 2 0·4 | ............ | − 7 45 44·3 |
| | A.S.C. 793 | 50·9 | 51·1 | +0·2 | 86 13 51·2 | ...... | ...... | ...... | ...... | + 1 16·7 | ............ | + 3 50 19·3 |
| | 77 Orionis | 41·0 | 41·0 | +0·2 | 89 40 41·2 | ...... | ...... | ...... | ...... | + 1 27·0 | ............ | + 0 23 19·0 |
| | δ Ursæ Minoris S.P. | 29·8 | 32·9 | −0·6 | 356 41 30·7 | ...... | 37·7 | 30·01 | 39·0 | − 0 45·8 | ............ | +86 35 17·7 |
| | (*b*) Nadir | 0·0<br>5·5 | 3·8<br>8·7 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 64·5<br>59·7 | 68·2<br>63·0 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | Venus Centre | 15·4 | 15·1 | +0·5 | 109 13 15·8 | ...... | 44·4 | 29·97 | 43·7 | + 3 37·6 | 4·2 | −19 11 26·0 |
| Feb. 4 | Sun South Limb | 32·5 | 32·2 | +0·4 | 106 33 32·8 | ...... | 44·6 | 29·98 | 44·0 | + 3 4·0 | ............ | −16 31 9·4 |
| | ζ Aurigæ | 39·9 | 41·5 | +0·1 | 49 14 40·8 | ...... | 41·7 | 30·00 | 42·4 | + 0 16·0 | ............ | +40 50 30·6 |
| | μ Aurigæ | 30·5 | 31·7 | +0·1 | 51 47 31·1 | ...... | ...... | ...... | ...... | + 0 18·9 | ............ | +38 17 37·4 |
| | 31 Camelopardi | 42·2 | 44·5 | −0·1 | 30 14 43·3 | ...... | ...... | ...... | ...... | − 0 4·0 | ............ | +59 50 48·1 |
| | 56 Orionis | 24·0 | 26·2 | +0·2 | 88 15 25·3 | ...... | ...... | ...... | ...... | + 1 21·8 | ............ | + 1 48 40·3 |
| | 2 Monocerotis | 41·6 | 41·2 | +0·4 | 99 37 41·9 | ...... | ...... | ...... | ...... | + 2 9·4 | ............ | − 9 34 23·9 |
| | 66 Orionis | 27·0 | 28·1 | +0·2 | 85 54 27·8 | ...... | ...... | ...... | ...... | + 1 15·2 | ............ | + 4 9 44·4 |
| | θ Leporis | 16·6 | 16·0 | +0·4 | 104 58 16·7 | ...... | ...... | ...... | ...... | + 2 49·0 | ............ | −14 55 38·3 |
| | 1 Lyncis | 55·5 | 59·1 | −0·1 | 28 31 57·2 | ...... | ...... | ...... | ...... | − 0 5·8 | ............ | +61 33 36·0 |
| | 2 Lyncis | 47·0 | 48·5 | −0·1 | 31 1 47·6 | ...... | ...... | ...... | ...... | − 0 3·2 | ............ | +59 3 43·0 |
| | (*c*) 7 Monocerotis | 9·9 | 11·2 | +0·3 | 97 49 10·9 | − 0·1 | ...... | ...... | ...... | + 1 59·4 | ............ | − 7 45 42·8 |
| | 8 Monocerotis | 9·8 | 11·0 | +0·2 | 85 24 10·6 | ...... | ...... | ...... | ...... | + 1 13·8 | ............ | + 4 40 3·0 |
| | (*d*) δ Ursæ Minoris S.P. | 27·7 | 31·0 | −0·6 | 356 41 28·7 | − 0·2 | ...... | ...... | ...... | − 0 45·4 | ............ | +86 35 15·7 |
| | 12 Monocerotis | 23·9 | 25·0 | +0·2 | 85 6 24·6 | ...... | ...... | ...... | ...... | + 1 13·0 | ............ | + 4 57 49·8 |
| | (*e*) 14 Monocerotis | 59·3 | 61·1 | +0·1 | 82 23 0·3 | 0·0 | 41·6 | 29·98 | 42·2 | + 1 6·3 | ............ | + 7 41 20·8 |
| | (*f*) Nadir | 59·4<br>65·0 | 63·5<br>68·2 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 5·0<br>0·2 | 9·0<br>4·0 | −0·1 | 214 8 4·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | Venus Centre | 59·8 | 59·0 | +0·5 | 108 54 59·9 | ...... | 39·5 | 29·91 | 41·0 | + 3 35·1 | 3·9 | −18 53 7·9 |
| Feb. 5 | Sun North Limb | 5·2 | 6·4 | +0 4 | 105 43 6·2 | ...... | 39·5 | 29·91 | 40·8 | + 2 56·6 | ............ | −15 40 35·7 |
| | Mercury Centre | 11·4 | 12·1 | +0·4 | 102 30 12·1 | ...... | 40·0 | 29·89 | 41·0 | + 2 28·4 | ............ | −12 27 13·4 |
| | Mars Centre | 33·1 | 34·9 | +0·3 | 93 19 34·3 | ...... | 40·4 | 29·87 | 41·5 | + 1 39·0 | ............ | − 3 15 46·2 |
| | Vesta | 21·4 | 23·1 | +0·2 | 82 59 22·5 | ...... | 40·0 | 29·86 | 41·1 | + 1 7·7 | ............ | + 7 4 56·9 |
| | (*c*) 65 Aurigæ | 0·1 | 2·8 | +0·1 | 53 2 1·5 | + 0·5 | 37·0 | 29·84 | 38·7 | + 0 20·4 | ............ | +37 3 4·7 |
| | (*e*) γ Canis Minoris | 1·0 | 3·3 | +0·1 | 80 50 2·2 | 0·0 | ...... | ...... | ...... | + 1 3·1 | ............ | + 9 14 21·8 |
| | δ¹ Canis Minoris | 29·4 | 31·1 | +0·2 | 87 49 30·5 | ...... | ...... | ...... | ...... | + 1 20·9 | ............ | + 2 14 35·7 |

(*a*) Wire III.
(*b*) At 6ʰ 50ᵐ.

(*c*) Wire V.
(*d*) At 6ʰ 21ᵐ 30ˢ.

(*e*) Wire IV.
(*f*) At 6ʰ 40ᵐ.

| Date. | Object Observed. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Feb. 5 | β Geminorum | 49·0 | 49·7 | +0·1 | 61 40 49·4 | ...... | ...... | ...... | ...... | + 0 31·1 | 304 8 3·9 | +28 24 6·6 |
| | ζ Canis Minoris | 14·2 | 15·6 | +0·2 | 87 54 15·1 | ...... | ...... | ...... | ...... | + 1 21·1 | ............ | + 2 9 50·9 |
| | A.S.C. 968 | 47·0 | 49·0 | +0·1 | 80 47 48·1 | ...... | ...... | ...... | ...... | + 1 3·1 | ............ | + 9 16 35·9 |
| | (a) 13 Argus | 21·9 | 23·4 | +0·2 | 87 18 22·9 | 0·0 | ...... | ...... | ...... | + 1 19·4 | ............ | + 2 45 44·8 |
| | 55 Camelopardi | 48·9 | 50·8 | −0·3 | 21 9 49·6 | ...... | ...... | ...... | ...... | − 0 13·7 | ............ | +68 55 51·2 |
| | 18 Argus | 14·0 | 13·4 | +0·4 | 103 23 14·1 | ...... | ...... | ...... | ...... | + 2 36·0 | ............ | −13 20 23·0 |
| | 20 Argus | 37·7 | 35·5 | +0·4 | 105 21 37·0 | ...... | ...... | ...... | ...... | + 2 53·6 | ............ | −15 19 3·5 |
| | 21 Argus | 32·9 | 32·8 | +0·4 | 105 50 33·2 | ...... | ...... | ...... | ...... | + 2 58·5 | ............ | −15 48 4·6 |
| | (b) 1 Hydræ | 28·0 | 28·5 | +0·3 | 93 18 28·6 | 0·0 | ...... | ...... | ...... | + 1 39·5 | ............ | − 3 14 41·0 |
| | (a) 2 Hydræ | 11·9 | 13·0 | +0·3 | 93 32 12·7 | 0·0 | 36·5 | 29·83 | 38·4 | + 1 40·5 | ............ | − 3 28 26·1 |
| | A.S.C. 1044 | 26·0 | 25·4 | +0·2 | 82 54 25·9 | ...... | ...... | ...... | ...... | + 1 7·9 | ............ | + 7 9 53·3 |
| Feb. 6 | Venus Centre | 57·3 | 58·4 | +0·4 | 108 16 58·2 | ...... | 30·8 | 29·49 | 35·7 | + 3 27·3 | ............ | −18 14 58·4 |
| Feb. 7 | (c) Sun South Limb | 31·3 | 32·0 | +0·4 | 105 38 32·1 | ...... | ...... | ...... | ...... | + 2 56·3 | ............ | −15 36 1·3 |
| | Mercury Centre | 57·7 | 58·1 | +0·4 | 100 59 58.3 | ...... | 32·4 | 29·47 | 35·6 | + 2 18·2 | ............ | −10 56 49·4 |
| | (a) Mars Centre | 46·0 | 47·9 | +0·3 | 92 41 47·2 | + 0·3 | 32·1 | 29·46 | 35·8 | + 1 36·9 | ............ | − 2 37 57·3 |
| Feb. 8 | Sun North Limb | 25·5 | 25·0 | +0·4 | 104 47 25·6 | ...... | 36·3 | 29·51 | 37·0 | + 2 46·4 | ............ | −14 44 44·9 |
| | Mercury Centre | 13·5 | 15·2 | +0·4 | 100 14 14·8 | ...... | 36·0 | 29·48 | 37·2 | + 2 12·3 | ............ | −10 11 0·0 |
| | (d) α Ursæ Minoris | 31·2 | 34·8 | −0·5 | 1 37 32·6 | + 3·1 | 36·5 | 29·50 | 37·5 | − 0 37·5 | ............ | +88 28 28·9 |
| | (e) ........................ | 35·4 | 38·9 | −0·5 | 1 37 36·7 | ...... | ...... | ...... | ...... | − 0 37·5 | ............ | +88 28 27·9 |
| Feb. 9 | Venus Centre | 8·2 | 10·0 | +0·4 | 107 16 9·5 | ...... | 45·0 | 29·37 | 44·4 | + 3 7·8 | ............ | −17 13 50·2 |
| Feb. 10 | (b) Sun South Limb | 23·4 | 24·3 | +0·4 | 104 41 24·2 | + 0·1 | 45·0 | 29·40 | 44·8 | + 2 41·9 | ............ | −14 38 39·1 |
| | Mercury Centre | 6·0 | 7·0 | +0·3 | 98 43 6·8 | ...... | 46·0 | 29·38 | 45·2 | + 2 0·5 | ............ | − 8 39 40·2 |
| | Mars Centre | 6·6 | 8·0 | +0·3 | 91 45 7·6 | ...... | 46·0 | 29·38 | 45·8 | + 1 30·5 | ............ | − 1 41 11·0 |
| | Venus Centre | 52·6 | 54·0 | +0·4 | 106 54 53·7 | ...... | 50·1 | 29·14 | 47·0 | + 3 0·5 | 3·6 | −16 52 27·4 |
| Feb. 11 | Sun North Limb | 30·6 | 30·1 | +0·4 | 103 49 30·8 | ...... | 50·6 | ...... | ...... | + 2 31·6 | ............ | −13 46 35·6 |
| | (f) α Ursæ Minoris | 4·6 | 8·4 | −0·5 | 1 37 6·0 | +28·8 | 45·0 | 29·20 | 45·3 | − 0 36·5 | ............ | +88 28 28·5 |
| | ........................ | 33·5 | 36·9 | −0·5 | 1 37 34·8 | ...... | ...... | ...... | ...... | − 0 36·5 | ............ | +88 28 28·5 |
| | (g) ........................ | 7·3 | 12·5 | −0·5 | 1 37 9·4 | +25·9 | 45·2 | 29·20 | 45·7 | − 0 36·5 | ............ | +88 28 28·0 |
| | ζ Leporis | 53·3 | 54·4 | +0·4 | 104 55 54·2 | ...... | 45·9 | 29·24 | 45·1 | + 2 42·9 | ............ | −14 53 10·3 |
| | 2 Monocerotis | 48·8 | 50·7 | +0·4 | 99 37 50·2 | ...... | ...... | ...... | ...... | + 2 5·0 | ............ | − 9 34 28·4 |
| | 3 Monocerotis | 34·2 | 36·5 | +0·4 | 100 39 35·8 | ...... | ...... | ...... | ...... | + 2 11·2 | ............ | −10 36 20·2 |
| | (b) ϱ Leporis | 15·4 | 17·0 | +0·4 | 106 31 16·6 | − 0·1 | ...... | ...... | ...... | + 2 58·4 | ............ | −16 28 48·1 |
| | 4 Monocerotis | 51·5 | 54·5 | +0·4 | 101 10 53·4 | ...... | ...... | ...... | ...... | + 2 14·4 | ............ | −11 7 41·0 |
| | 73 Orionis | 46·0 | 50·6 | +0·1 | 77 28 48·4 | ...... | ...... | ...... | ...... | + 0 54·0 | ............ | +12 35 44·4 |
| | A.S.C. 793 | 52·6 | 55·7 | +0·2 | 86 13 54·4 | ...... | ...... | ...... | ...... | + 1 13·5 | ............ | + 3 50 18·9 |
| | (h) δ Ursæ Minoris S.P. | 24·4 | 29·4 | −0·6 | 356 41 26·3 | − 0·2 | ...... | ...... | ...... | − 0 43·9 | ............ | +86 35 15·4 |
| | 12 Monocerotis | 25·0 | 28·1 | +0·2 | 85 6 26·8 | ...... | ...... | ...... | ...... | + 1 10·6 | ............ | + 4 57 49·4 |
| | (e) 14 Monocerotis | 58·3 | 61·3 | +0·1 | 82 22 59·9 | ...... | ...... | ...... | ...... | + 1 4·1 | ............ | + 7 41 22·8 |
| | 55 Aurigæ | 58·1 | 62·3 | +0·1 | 45 25 0·3 | ...... | ...... | ...... | ...... | + 0 11·4 | ............ | +44 40 15·1 |
| | 42 Camelopardi | 17·8 | 22·5 | −0·2 | 22 21 19·9 | ...... | ...... | ...... | ...... | − 0 12·0 | ............ | +67 44 18·9 |
| | 16 Monocerotis | 27·9 | 31·3 | +0·1 | 81 19 29·7 | ...... | 45·8 | 29·26 | 45·7 | + 1 1·8 | ............ | + 8 44 55·3 |
| | (b) θ Canis Majoris | 53·8 | 55·3 | +0·4 | 101 53 55·0 | 0·0 | ...... | ...... | ...... | + 2 19·3 | ............ | −11 50 47·5 |
| | (b) μ Canis Majoris | 33·3 | 34·5 | +0·4 | 103 53 34·3 | 0·0 | ...... | ...... | ...... | + 2 34·3 | ............ | −13 50 41·8 |
| | (a) 19 Monocerotis | 46·0 | 48·1 | +0·3 | 94 4 47·4 | 0·0 | ...... | ...... | ...... | + 1 38·8 | ............ | − 4 0 59·4 |
| | (e) γ Canis Minoris | 2·0 | 5·7 | +0·1 | 80 50 3·9 | ...... | ...... | ...... | ...... | + 1 0·8 | ............ | + 9 14 22·1 |
| | β Geminorum | 47·8 | 49·8 | +0·1 | 61 40 48·9 | ...... | 45·9 | 29·28 | 45·7 | + 0 29·9 | ............ | +28 24 8·0 |
| | (b) ζ Canis Minoris | 16·3 | 19·8 | +0·2 | 87 54 18·3 | 0·0 | ...... | ...... | ...... | + 1 18·1 | ............ | + 2 9 50·4 |
| | A.S.C. 968 | 49·3 | 52·2 | +0·1 | 80 47 50·9 | ...... | ...... | ...... | ...... | + 1 0·7 | ............ | + 9 16 35·2 |
| | (i) 13 Argus | 22·5 | 26·5 | +0·2 | 87 18 24·7 | +0·1 | ...... | ...... | ...... | + 1 16·4 | ............ | + 2 45 45·6 |

(a) Wire V.
(b) Wire IV.
(c) Tremulous.

(d) At $0^h\ 54^m\ 25^s$.
(e) Wire III.
(f) Wire I. at $0^h\ 38^m\ 44^s$.

(g) Wire V. at $1^h\ 24^m\ 17^s$.
(h) At $6^h\ 21^m$.
(i) $1^m$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Feb. 11 | (a) Nadir ............... | 59·0<br>64·0 | 63·7<br>68·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | 304 8 3·6 | .............. |
| | ..................... | 63·8<br>59·2 | 68·1<br>64·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Feb. 12 | α Ursæ Minoris ...... | 33·7 | 38·0 | −0·5 | 1 37 35·4 | ...... | 46·5 | 29·12 | 46·1 | − 0 36·3 | ............ | +88 28 27·7 |
| | (b) 51 Orionis ........... | 31·0 | 34·0 | +0·2 | 88 40 32·7 | 0·0 | 41·5 | 29·14 | 42·9 | + 1 20·8 | ............ | + 1 23 33·3 |
| | (c) ϰ Orionis ............... | 12·9 | 14·2 | +0·4 | 99 47 13·9 | 0·0 | ...... | ...... | ...... | + 2 6·6 | ............ | − 9 43 53·7 |
| | μ Orionis.............. | 53·5 | 56·9 | +0·1 | 80 25 55·3 | ...... | ...... | ...... | ...... | + 1 0·2 | ............ | + 9 38 31·3 |
| | (c) ϱ Leporis.............. | 12·2 | 12·9 | +0·4 | 106 31 12·9 | − 0·1 | ...... | ...... | ...... | + 2 59·4 | ............ | −16 28 45·4 |
| | (c) 73 Orionis .... ........ | 47·0 | 50·8 | +0·1 | 77 28 49·0 | + 0·1 | ...... | ...... | ...... | + 0 54·3 | ............ | +12 35 43·4 |
| | A.S.C. 793............ | 54·0 | 56·2 | +0·2 | 86 13 55·3 | ...... | ...... | ...... | ...... | + 1 14·0 | ............ | + 3 50 17·5 |
| | (d) δ Ursæ Minoris S.P. | 24·9 | 28·9 | −0·6 | 356 41 26·3 | − 0·4 | ...... | ...... | ...... | − 0 44·2 | ............ | +86 35 14·9 |
| | 9 Argus ................ | 59·0 | 60·0 | +0·4 | 103 31 59·9 | ...... | ...... | ...... | ...... | + 2 32·3 | ............ | −13 29 5·4 |
| | A.S.C. 968............ | 50·6 | 52·9 | +0·1 | 80 47 51·9 | ...... | 39·9 | 29·23 | 42·7 | + 1 1·4 | ............ | + 9 16 33·5 |
| | 55 Camelopardi ...... | 46·8 | 49·0 | −0·3 | 21 9 47·6 | ...... | ...... | ...... | ...... | − 0 13·4 | ............ | +68 55 52·6 |
| Feb. 14 | α² Geminorum ....... | 16·7 | 19·0 | +0·1 | 57 51 17·9 | ...... | 45·9 | 29·87 | 45·4 | + 0 25·7 | 3·7 | +32 13 43·3 |
| | β Geminorum......... | 48·2 | 49·3 | +0·1 | 61 40 48·8 | ...... | ...... | ...... | ...... | + 0 30·5 | ............ | +28 24 7·6 |
| Feb. 15 | (e) Sun South Limb .... | 12·7 | 14·9 | +0·4 | 103 1 14·2 | + 0·5 | 45·5 | 29·80 | 45·4 | + 2 30·2 | ............ | −12 58 18·0 |
| | Mercury Centre ...... | 14·6 | 16·8 | +0·3 | 95 11 16·0 | ...... | 45·2 | 29·83 | 45·4 | + 1 45·4 | ............ | − 5 7 34·5 |
| | α Ursæ Minoris ...... | 34·7 | 38·5 | −0·5 | 1 37 36·2 | ...... | 43·6 | 29·88 | 44·5 | − 0 37·5 | ............ | +88 28 28·2 |
| | (f) Moon South Limb... | 52·0 | ...... | +0·1 | 77 1 53·5 | − 9·7 | ...... | ...... | ...... | + 0 54·6 | ............ | +13 2 48·5 |
| | (g) ........................ | ...... | 44·4 | +0·1 | 77 1 43·1 | 0·0 | ...... | ...... | ...... | + 0 54·6 | ............ | +13 2 49·2 |
| | (h) ........................ | 33·1 | 35·9 | +0·1 | 77 1 34·6 | + 8·6 | 43·5 | ...... | ...... | + 0 54·6 | ............ | +13 2 49·1 |
| | θ Leporis.............. | 13·0 | 13·8 | +0·4 | 104 58 13·8 | ...... | 39·6 | 29·99 | 41·5 | + 2 49·7 | ............ | −14 55 36·6 |
| | 73 Orionis ............ | 46·7 | 50·1 | +0·1 | 77 28 48·5 | ...... | ...... | ...... | ...... | + 0 56·2 | ............ | +12 35 42·2 |
| | 8 Monocerotis......... | 9·8 | 11·9 | +0·2 | 85 24 11·1 | ...... | ...... | ...... | ...... | + 1 14·2 | ............ | + 4 40 1·6 |
| | (d) δ Ursæ Minoris S.P. | 27·0 | 30·5 | −0·6 | 356 41 28·1 | − 0·3 | ...... | ...... | ...... | − 0 45·6 | ............ | +86 35 15·3 |
| | 12 Monocerotis ...... | 23·3 | 25·0 | +0·2 | 85 6 24·3 | ...... | ...... | ...... | ...... | + 1 13·4 | ............ | + 4 57 49·2 |
| | 14 Monocerotis....... | 58·0 | 59·4 | +0·1 | 82 22 58·8 | ...... | ...... | ...... | ...... | + 1 6·6 | ............ | + 7 41 21·5 |
| | 55 Aurigæ ............ | 58·3 | 61·1 | +0·1 | 45 24 59·8 | ...... | ...... | ...... | ...... | + 0 11·9 | ............ | +44 40 15·2 |
| | 42 Camelopardi ...... | 18·5 | 22·8 | −0·2 | 22 21 20·4 | ...... | ...... | ...... | ...... | − 0 12·4 | ............ | +67 44 18·9 |
| | 16 Monocerotis ...... | 26·2 | 29·2 | +0·1 | 81 19 27·8 | ...... | ...... | ...... | ...... | + 1 4·2 | ............ | + 8 44 54·9 |
| | (c) μ Canis Majoris ...... | 29·9 | 29·4 | +0·4 | 103 53 30·1 | − 0·1 | 39·5 | 30·00 | 40·8 | + 2 40·3 | ............ | −13 50 43·4 |
| | γ Canis Minoris ...... | 1·6 | 3·8 | +0·1 | 80 50 2·8 | ...... | ...... | ...... | ...... | + 1 3·2 | ............ | + 9 14 20·9 |
| | (i) δ¹ Canis Minoris...... | 29·0 | 31·6 | +0·2 | 87 49 30·5 | ...... | ...... | ...... | ...... | + 1 20·9 | ............ | + 2 14 35·5 |
| | 9 Argus ............... | 54·0 | 54·5 | +0·4 | 103 31 54·6 | ...... | ...... | ...... | ...... | + 2 37·2 | ............ | −13 29 4·9 |
| | (c) 55 Camelopardi ...... | 45·2 | 48·0 | −0·3 | 21 9 46·3 | + 0·4 | 40·0 | 30·02 | 41·0 | − 0 13·7 | ............ | +68 55 53·9 |
| | 69 Draconis S.P. .... | 36·8 | 42·2 | −0·5 | 346 8 39·0 | ...... | ...... | ...... | ...... | − 1 6·0 | ............ | +76 2 6·1 |
| | β Cancri ............... | 24·8 | 26·2 | +0·1 | 80 24 25·6 | ...... | ...... | ...... | ...... | + 1 2·2 | ............ | + 9 39 59·1 |
| | 31 Lyncis ............. | 53·0 | 56·1 | +0·1 | 46 23 54·7 | ...... | ...... | ...... | ...... | + 0 13·0 | ............ | +43 41 19·2 |
| | Groombridge 1431... | 55·0 | 59·3 | −0·5 | 7 18 56·7 | ...... | ...... | ...... | ...... | − 0 30·1 | ............ | +82 47 0·3 |
| | (k) λ Ursæ Minoris S.P. | 8·5 | 13·0 | −0·6 | 358 56 10·1 | − 0·1 | ...... | ...... | ...... | − 0 42·0 | ............ | +88 50 1·1 |
| | A.S.C. 1044 preced. | 25·0 | 26·0 | +0·2 | 82 54 25·7 | ...... | ...... | ...... | ...... | + 1 7·8 | ............ | + 7 9 53·4 |
| | σ Hydræ ............... | 45·7 | 46·7 | +0·2 | 86 10 46·4 | ...... | ...... | ...... | ...... | + 1 16·2 | ............ | + 3 53 24·3 |
| | η Hydræ ............... | 35·5 | 36·8 | +0·2 | 86 6 36·3 | ...... | ...... | ...... | ...... | + 1 16·0 | ............ | + 3 57 34·6 |
| | ι Hydræ ............... | 46·7 | 48·5 | +0·2 | 83 4 47·8 | ...... | 40·3 | 30·01 | 41·1 | + 1 8·2 | ............ | + 6 59 30·9 |
| | (l) Nadir ............... | 58·6<br>63·5 | 63·3<br>68·7 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ..................... | 64·0<br>59·2 | 69·0<br>64·3 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | Venus Centre......... | 21·0 | 21·4 | +0·4 | 105 1 21·6 | ...... | 44·3 | 30·04 | 44·0 | + 2 48·8 | 3·6 | −14 58 43·6 |

(a) At $8^{h}\ 10^{m}$.
(b) Wire V.
(c) Wire IV.
(d) At $6^{h}\ 21^{m}$.
(e) At $21^{h}\ 55^{m}\ 30^{s}$.
(f) At $1^{h}\ 17^{m}\ 40^{s}$.
(g) At $1^{h}\ 18^{m}\ 28^{s}$.
(h) At $1^{h}\ 19^{m}\ 10^{s}$.
(i) Wire III.
(k) At $8^{h}\ 19^{m}\ 10^{s}$.
(l) At $8^{h}\ 50^{m}$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Feb. 16 | Sun North Limb····· | 12·0 | 13·0 | +0·4 | 102 8 12·9 | ······ | 44·5 | ······ | ······ | + 2 25·0 | 304 8 3·6 | −12 5 11·1 |
| | Mars Centre··········· | 51·0 | 52·6 | +0·2 | 89 51 52·0 | ······ | 45·2 | 30·00 | 45·4 | + 1 26·2 | ············ | + 0 12 8·6 |
| | (*a*) α Ursæ Minoris······ | 7·6 | 13·1 | −0·5 | 1 37 9·8 | +27·5 | ······ | ······ | ······ | − 0 37·6 | ············ | +88 28 27·1 |
| | (*b*) ·························· | 9·5 | 14·2 | −0·5 | 1 37 11·3 | +25·9 | 44·3 | 30·01 | 45·0 | − 0 37·6 | ············ | +88 28 27·2 |
| | (*c*) β Arietis················ | 34·2 | 36·0 | +0·1 | 70 2 35·3 | + 0·1 | ······ | ······ | ······ | + 0 42·7 | ············ | +20 2 8·7 |
| | (*d*) Moon South Limb··· | 45·5 | ······ | +0·1 | 72 22 46·7 | − 8·0 | ······ | ······ | ······ | + 0 46·6 | ············ | +17 42 1·5 |
| | (*e*) ·························· | ······ | 40·4 | +0·1 | 72 22 39·6 | − 0·4 | ······ | ······ | ······ | + 0 46·6 | ············ | +17 42 1·0 |
| | (*f*) ·························· | 31·0 | 33·0 | +0·1 | 72 22 32·2 | + 7·1 | 43·5 | 30·00 | 44·5 | + 0 46·6 | ············ | +17 42 0·9 |
| | (*g*) δ Ursæ Minoris S.P. | 24·4 | 28·9 | −0·6 | 356 41 26·0 | − 0·1 | 41·8 | 29·98 | 42·7 | − 0 45·3 | ············ | +86 35 13·8 |
| | (*h*) 69 Draconis S.P.····· | 36·8 | 41·5 | −0·5 | 346 8 38·7 | − 0·7 | ······ | ······ | ······ | − 1 5·7 | ············ | +76 2 5·5 |
| | β Cancri ··············· | 25·0 | 27·1 | +0·1 | 80 24 26·2 | ······ | 40·5 | 29·96 | 41·5 | + 1 2·0 | ············ | + 9 39 58·6 |
| | 31 Lyncis ·············· | 53·4 | 56·0 | +0·1 | 46 23 54·8 | ······ | ······ | ······ | ······ | + 0 12·9 | ············ | +43 41 19·1 |
| | Groombridge 1431··· | 55·4 | 60·0 | −0·5 | 7 18 57·2 | ······ | ······ | ······ | ······ | − 0 30·0 | ············ | +82 46 59·6 |
| | λ Ursæ Minoris S.P. · | 9·7 | 13·7 | −0·6 | 358 56 11·1 | ······ | ······ | ······ | ······ | − 0 41·9 | ············ | +88 50 2·4 |
| | A.S.C. 1044 ········· | 25·0 | 26·2 | +0·2 | 82 54 25·8 | ······ | ······ | ······ | ······ | + 1 7·6 | ············ | + 7 9 53·4 |
| | (*h*) δ Hydræ ··············· | 23·8 | 25·1 | +0·2 | 83 49 24·7 | 0.0 | ······ | ······ | ······ | + 1 9·9 | ············ | + 6 14 52·2 |
| | 6 Hydræ··············· | 24·5 | 25·3 | +0·4 | 101 58 25·3 | ······ | ······ | ······ | ······ | + 2 24·7 | ············ | −11 55 23·2 |
| | η Hydræ ··············· | 34·2 | 36·1 | +0·2 | 86 6 35·3 | ······ | ······ | ······ | ······ | + 1 15·8 | ············ | + 3 57 35·7 |
| | ε Hydræ ··············· | 46·2 | 48·4 | +0·2 | 83 4 47·5 | ······ | ······ | ······ | ······ | + 1 8·1 | ············ | + 6 59 31·2 |
| | 14 Hydræ ············· | 34·0 | 35·6 | +0·3 | 92 55 35·1 | ······ | ······ | ······ | ······ | + 1 37·8 | ············ | − 2 51 46·1 |
| | (*i*) ϱ² Cancri ·············· | 13·8 | 15·3 | +0·1 | 61 9 14·7 | + 0·4 | ······ | ······ | ······ | + 0 30·3 | ············ | +28 55 41·4 |
| | ζ Hydræ ··············· | 52·3 | 53·7 | +0·2 | 83 31 53·2 | ······ | 39·8 | 29·95 | 41·0 | + 1 9·2 | ············ | + 6 32 24·4 |
| | (*k*) Nadir ·············· | 58·9<br>63·9 | 63·5<br>68·8 | −0·1 | 214 8 3·6 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
| | ······················ | 63·8<br>58·8 | 68·1<br>63·8 | −0·1 | 214 8 3·6 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
| Feb. 17 | Venus Centre········· | 2·8 | 4·1 | +0·4 | 104 13 3·9 | ······ | 45·5 | 29·87 | 45·4 | + 2 40·2 | 4·0 | −14 10 16·9 |
| Feb. 18 | Sun South Limb ···· | 38·5 | 38·1 | +0·4 | 101 58 38·7 | ······ | ······ | ······ | ······ | + 2 22·8 | ············ | −11 55 34·3 |
| | Mercury Centre ······ | 34·6 | 36·0 | +0·3 | 93 30 35·6 | ······ | 46·4 | 29·87 | 46·5 | + 1 38·5 | ············ | − 3 26 46·9 |
| | (*h*) Mars Centre ·········· | 13·4 | 16·0 | +0·2 | 89 14 14·9 | + 0·2 | 46·3 | 29·88 | 46·6 | + 1 23·7 | ············ | + 0 49 48·4 |
| | ε Hydræ ··············· | 46·5 | 48·5 | +0·2 | 83 4 47·7 | ······ | ······ | ······ | ······ | + 1 8·3 | ············ | + 6 59 31·2 |
| | 14 Hydræ ············ | 33·7 | 36·8 | +0·3 | 92 55 35·5 | ······ | 39·6 | 29·98 | 41·7 | + 1 38·0 | ············ | − 2 51 46·3 |
| | ζ Hydræ ··············· | 50·1 | 53·0 | +0·2 | 83 31 51·7 | ······ | ······ | ······ | ······ | + 1 9·3 | ············ | + 6 32 26·2 |
| | ω Hydræ ··············· | 12·0 | 14·4 | +0·2 | 84 21 13·4 | ······ | ······ | ······ | ······ | + 1 11·4 | ············ | + 5 43 2·4 |
| | 21 Hydræ ············ | 37·9 | 41·0 | +0·3 | 96 31 39·7 | ······ | ····· | ······ | ······ | + 1 53·4 | ············ | − 6 28 5·9 |
| | 77 Draconis S.P.······ | 27·0 | 31·7 | −0·5 | 347 35 28·8 | ······ | ······ | ······ | ······ | − 1 2·8 | ············ | +77 28 58·8 |
| | 40 Lyncis ············ | 47·7 | 49·7 | +0·1 | 55 1 48·8 | ······ | ······ | ······ | ······ | + 0 22·7 | ············ | +35 3 15·7 |
| | χ Leonis ·············· | 31·7 | 31·3 | +0·1 | 63 13 31·6 | ······ | ······ | ······ | ······ | + 0 33·1 | ············ | +26 51 22·5 |
| | 28 Hydræ ············ | 13·5 | 15·0 | +0·3 | 94 30 14·5 | ······ | ······ | ······ | ······ | + 1 44·2 | ············ | − 4 26 31·5 |
| | α Hydræ··············· | 11·2 | 14·0 | +0·3 | 98 2 12·9 | ······ | 39·6 | 29·97 | 41·0 | + 2 0·9 | ············ | − 7 58 46·6 |
| | Venus Centre········· | 19·4 | 18·8 | +0·4 | 103 48 19·5 | ······ | 46·5 | 29·76 | 46·0 | + 2 35·9 | 4·3 | −13 45 27·9 |
| Feb. 19 | Sun North Limb ···· | 7·2 | 8·0 | +0·4 | 101 5 8·0 | ······ | ····· | ······ | ······ | + 2 16·0 | ············ | −11 1 56·5 |
| | (*l*) Nadir ··············· | 59·1<br>64·2 | 64·0<br>69·2 | −0·1 | 214 8 4·1 | ······ | ······ | ······ | ······ | ·· ······ | ············ | ·············· |
| | ······················ | 64·5<br>59·8 | 69·9<br>64·4 | −0·1 | 214 8 4·5 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
| | (*h*) Mercury Centre ······ | 48·6 | 50·5 | +0·3 | 93 3 49·9 | + 0·2 | 46·8 | 29·73 | 46·4 | + 1 36·2 | ············ | − 2 59 58·8 |
| | (*i*) Mars Centre ·········· | 29·0 | 30·9 | +0·2 | 88 55 30·1 | + 0·3 | 46·0 | 29·71 | 46·4 | + 1 22·3 | ············ | + 1 8 34·8 |
| | (*m*) α Ursæ Minoris······· | 7·5 | 12·4 | −0·5 | 1 37 9·4 | +28·7 | ······ | ······ | ······ | − 0 37·1 | ············ | +88 28 26·5 |
| | (*h*) β Andromedæ ······· | 58·0 | 60·2 | +0·1 | 55 17 59·2 | + 0·1 | ······ | ······ | ······ | + 0 22·6 | ············ | +34 47 5·6 |
| | (*n*) α Ursæ Minoris ······ | 9·5 | 15·2 | −0·5 | 1 37 11·8 | +25·6 | 45·1 | 29·69 | 46·2 | − 0 37·1 | ············ | +88 28 27·2 |
| | (*o*) Moon South Limb··· | 58·4 | ······ | +0·1 | 64 28 59·8 | − 0·3 | ······ | ······ | ······ | + 0 34·1 | ············ | +25 35 53·9 |

(*a*) At $0^h\ 39^m\ 5^s$.
(*b*) Wire V. at $1^h\ 24^m\ 8^s$.
(*c*) Wire II.
(*d*) At $2^h\ 7^m\ 40^s$.
(*e*) At $2^h\ 8^m\ 25^s$.
(*f*) At $2^h\ 9^m\ 5^s$.
(*g*) At $6^h\ 23^m\ 20^s$.
(*h*) Wire IV.
(*i*) Wire V.
(*k*) At $9^h\ 20^m$.
(*l*) At $22^h\ 45^m$.
(*m*) Wire I. at $0^h\ 38^m\ 25^s$.
(*n*) Wire V. at $1^h\ 23^m\ 56^s$.
(*o*) At $5^h\ 1^m\ 38^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Feb. 19 | (a) Moon South Limb | 56·2 | 58·8 | +0·1 | 64 28 57·6 | + 1·7 | 44·5 | 29·62 | 44·8 | + 0 34·1 | 304 8 4·3 | +25 35 54·1 |
| Feb. 21 | Sun South Limb | 28·7 | 28·8 | +0·4 | 100 54 29·2 | ...... | 39·8 | 29·25 | 40·6 | + 2 14·4 | 4·0 | −10 51 16·4 |
| | Mercury Centre | 35·0 | 36·1 | +0·3 | 92 22 35·9 | ...... | 40·3 | 29·26 | 41·0 | + 1 33·4 | ............ | − 2 18 42·1 |
| | Mars Centre | 3·0 | 6·9 | +0·2 | 88 18 5·2 | ...... | 41·1 | 29·27 | 41·8 | + 1 20·1 | ............ | + 1 46 1·9 |
| | (b) α Ursæ Minoris | 10·0 | 13·5 | −0·5 | 1 37 11·2 | +26·6 | ...... | ...... | ...... | − 0 37·0 | ............ | +88 28 26·4 |
| | β Andromedæ | 58·2 | 60·5 | +0·1 | 55 17 59·5 | ...... | ...... | ...... | ...... | + 0 22·5 | ............ | +34 47 5·2 |
| | (c) α Ursæ Minoris | 10·0 | 14·3 | −0·5 | 1 37 11·6 | +27·2 | 40·8 | 29·30 | 42·4 | − 0 37·0 | ............ | +88 28 25·4 |
| Feb. 22 | (d) α Ursæ Minoris | 7·9 | 11·9 | −0·5 | 1 37 9·4 | +28·7 | 40·9 | 29·15 | 41·5 | − 0 36·8 | 3·8 | +88 28 25·7 |
| | (e) β Andromedæ | 0·0 | 1·0 | +0·1 | 55 18 0·6 | 0·0 | ...... | ...... | ...... | + 0 22·3 | ............ | +34 47 4·1 |
| | (f) Nadir | 59·6<br>64·5 | 63·3<br>68·0 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 64·6<br>59·1 | 68·2<br>63·5 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Feb. 23 | Sun North Limb | 38·4 | 38·4 | +0·4 | 99 38 38·8 | ...... | 44·0 | 28·86 | 42·5 | + 2 4·0 | 3·2 | − 9 35 16·4 |
| | (g) Moon North Limb | 16·1 | ...... | +0·1 | 76 32 17·0 | + 9·3 | ...... | ...... | ...... | + 0 52·2 | ............ | +13 32 7·9 |
| | (h) ...................... | ...... | 26·6 | +0·1 | 76 32 25·8 | ...... | ...... | ...... | ...... | + 0 52·2 | ............ | +13 32 8·4 |
| | (i) ...................... | 33·6 | 35·3 | +0·1 | 76 32 34·5 | − 9·4 | 37·4 | 28·70 | 39·5 | + 0 52·2 | ............ | +13 32 9·1 |
| | ο Leonis | 7·5 | 10·4 | +0·1 | 79 28 9·1 | ...... | ...... | ...... | ...... | + 0 58·0 | ............ | +10 36 19·3 |
| | (k) α Leonis | 30·2 | 33·2 | +0·1 | 77 20 31·8 | 0·0 | 35·8 | 28·72 | 37·9 | + 0 54·0 | ............ | +12 44 0·6 |
| Feb. 24 | Sun South Limb | 52·0 | 51·8 | +0·4 | 99 48 52·3 | ...... | 37·5 | 28·73 | 38·3 | + 2 6·1 | ............ | − 9 45 32·0 |
| | (l) Moon South Limb | 53·6 | ...... | +0·2 | 83 39 54·7 | + 5·7 | ...... | ...... | ...... | + 1 7·5 | ............ | + 6 24 18·5 |
| | (m) ...................... | ...... | 6·7 | +0·2 | 83 40 6·0 | − 7·0 | ...... | ...... | ...... | + 1 7·5 | ............ | + 6 24 19·9 |
| | (n) ...................... | 18·3 | 20·1 | +0·2 | 83 40 19·4 | −19·7 | 35·6 | 28·79 | 38·4 | + 1 7·5 | ............ | + 6 24 19·2 |
| | (e) 48 Leonis | 41·7 | 42·2 | +0·1 | 82 18 42·1 | 0·0 | ...... | ...... | ...... | + 1 4·3 | ............ | + 7 45 40·0 |
| | χ Leonis | 16·4 | 19·7 | +0·1 | 81 53 18·2 | ...... | 35·3 | 28·79 | 38·0 | + 1 3·4 | ............ | + 8 11 4·8 |
| Feb. 25 | (o) α Ursæ Minoris | 8·5 | 12·2 | −0·5 | 1 37 9·8 | +28·5 | 39·4 | 28·82 | 40·4 | − 0 36·5 | ............ | +88 28 24·6 |
| | ...................... | 36·3 | 40·2 | −0·5 | 1 37 37·8 | ...... | ...... | ...... | ...... | − 0 36·5 | ............ | +88 28 25·1 |
| Feb. 26 | (p) α Ursæ Minoris | 36·3 | 40·1 | −0·5 | 1 37 37·8 | + 1·0 | 38·4 | 28·81 | 37·5 | − 0 36·5 | 2·7 | +88 28 23·6 |
| | $\delta^1$ Canis Minoris | 33·2 | 34·8 | +0·2 | 87 49 34·2 | ...... | 33·1 | 28·97 | 35·1 | + 1 19·2 | ............ | + 2 14 32·5 |
| | 9 Argus | 58·2 | 58·3 | +0·4 | 103 31 58·6 | ...... | ...... | ...... | ...... | + 2 33·8 | ............ | −13 29 6·5 |
| | 69 Draconis S.P. | 33·5 | 37·1 | −0·5 | 346 8 34·8 | ...... | ...... | ...... | ...... | − 1 4·6 | ............ | +76 2 4·3 |
| | β Cancri | 26·8 | 28·0 | +0·1 | 80 24 27·5 | ...... | ...... | ...... | ...... | + 1 0·8 | ............ | + 9 39 57·6 |
| | 31 Lyncis | 53·1 | 55·0 | +0·1 | 46 23 54·2 | ...... | ...... | ...... | ...... | + 0 12·7 | ............ | +43 41 19·0 |
| | Groombridge 1431 | 52·8 | 56·6 | −0·5 | 7 18 54·2 | ...... | ...... | ...... | ...... | − 0 29·5 | ............ | +82 47 1·2 |
| | λ Ursæ Minoris S.P. | 5·8 | 9·3 | −0·6 | 358 56 6·9 | ...... | 33·0 | 29·00 | 34·7 | − 0 41·2 | ............ | +88 49 59·8 |
| | (q) δ Hydræ | 24·3 | 24·8 | +0·2 | 83 49 24·8 | + 0·1 | ...... | ...... | ...... | + 1 8·7 | ............ | + 6 14 52·3 |
| | 6 Hydræ | 28·0 | 29·1 | +0·4 | 101 58 29·0 | ...... | ...... | ...... | ...... | + 2 22·3 | ............ | −11 55 25·4 |
| | η Hydræ | 37·8 | 38·5 | +0·2 | 86 6 38·3 | ...... | ...... | ...... | ...... | + 1 14·5 | ............ | + 3 57 33·1 |
| | ι Hydræ | 47·3 | 49·3 | +0·2 | 83 4 48·5 | ...... | ...... | ...... | ...... | + 1 6·9 | ............ | + 6 59 30·5 |
| | 14 Hydræ | 37·4 | 37·7 | +0·3 | 92 55 37·8 | ...... | ...... | ...... | ...... | + 1 36·1 | ............ | − 2 51 48·0 |
| | (k) ζ Hydræ | 51·0 | 53·5 | +0·2 | 83 31 52·4 | 0·0 | ...... | ...... | ...... | + 1 8·0 | ............ | + 6 32 25·5 |
| | ω Hydræ | 15·0 | 15·0 | +0·2 | 84 21 15·2 | ...... | ...... | ...... | ...... | + 1 10·0 | ............ | + 5 43 0·7 |
| | 18 Ursæ Majoris | 17·5 | 19·8 | 0·0 | 35 25 18·6 | ...... | ...... | ...... | ...... | + 0 1·3 | ............ | +54 40 6·0 |
| | 77 Draconis S.P. | 24·2 | 28·0 | −0·5 | 347 35 25·6 | ...... | ...... | ...... | ...... | − 1 1·6 | ............ | +77 28 58·1 |
| | 40 Lyncis | 47·3 | 48·2 | +0·1 | 55 1 47·8 | ...... | ...... | ...... | ...... | + 0 22·3 | ............ | +35 3 15·8 |
| | ϰ Leonis | 31·3 | 30·8 | +0·1 | 63 13 31·2 | ...... | ...... | ...... | ...... | + 0 32·5 | ............ | +26 51 22·2 |
| | α Hydræ | 16·1 | 17·8 | +0·3 | 98 2 17·2 | ...... | ...... | ...... | ...... | + 1 58·6 | ............ | − 7 58 49·9 |
| | $\tau^2$ Hydræ | 34·9 | 36·3 | +0·2 | 90 33 35·8 | ...... | 32·8 | 29·02 | 34·3 | + 1 27·8 | ............ | − 0 29 37·7 |
| | Groombridge 1562 | 39·0 | 42·0 | −0·4 | 10 14 40·1 | ...... | ...... | ...... | ...... | − 0 25·9 | ............ | +79 51 11·7 |
| | ϰ Hydræ | 8·0 | 8·8 | +0·4 | 103 40 8·8 | ...... | ...... | ...... | ...... | + 2 35·3 | ............ | −13 37 18·2 |

(a) At $5^h\ 3^m\ 36^s$.
(b) At $0^h\ 39^m\ 20^s$.
(c) At $1^h\ 24^m\ 30^s$.
(d) Wire I.
(e) Wire III.
(f) At $1^h\ 55^m$.
(g) At $9^h\ 18^m\ 10^s$.
(h) At $9^h\ 18^m\ 46^s$.
(i) At $9^h\ 19^m\ 24^s$.
(k) Wire IV.
(l) At $10^h\ 17^m\ 19^s$.
(m) At $10^h\ 18^m\ 4^s$.
(n) At $10^h\ 18^m\ 50^s$.
(o) Wire I. at $0^h\ 38^m\ 30^s$.
(p) At $0^h\ 57^m\ 15^s$.
(q) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Feb. 26 | ε Leonis ........ | 5·0 | 6·2 | +0·1 | 65 35 5·7 | ...... | ...... | ...... | ...... | + 0 35·7 | 304 8 2·7 | +24 29 44·5 |
|  | 6 Sextantis ........ | 20·0 | 21·4 | +0·3 | 93 34 21·0 | ...... | ...... | ...... | ...... | + 1 38·6 | ............ | − 3 30 33·7 |
|  | (a) 21 Leonis Minoris ... | 32·2 | 34·0 | +0·1 | 54 4 33·2 | + 0·1 | ...... | ...... | ...... | + 0 21·2 | ............ | +36 0 31·4 |
|  | 18 Sextantis ........ | 10·0 | 11·5 | +0·3 | 97 42 11·0 | ...... | ...... | ...... | ...... | + 1 56·9 | ............ | − 7 38 42·0 |
|  | 21 Sextantis ........ | 25·1 | 25·5 | +0·3 | 97 16 25·6 | ...... | ...... | ...... | ...... | + 1 54·8 | ............ | − 7 12 54·5 |
|  | 22 Sextantis ........ | 40·0 | 40·0 | +0·3 | 97 20 40·3 | ...... | ...... | ...... | ...... | + 1 55·2 | ............ | − 7 17 9·6 |
|  | 26 Sextantis ........ | 25·0 | 25·0 | +0·2 | 90 15 25·2 | ...... | 33·2 | 29·02 | 34·6 | + 1 26·8 | ............ | − 0 11 26·1 |
|  | (b) Nadir ........ | 59·0<br>63·5 | 62·1<br>67·1 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ........................ | 62·6<br>58·2 | 67·3<br>62·7 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | υ Leonis ........ | 21·6 | 23·1 | +0·2 | 90 1 22·5 | ...... | 33·1 | 29·02 | 35·0 | + 1 26·0 | ..... ...... | + 0 2 37·4 |
|  | β Virginis ........ | 5·2 | 7·5 | +0·2 | 87 25 6·5 | ...... | ...... | ...... | ...... | + 1 18·1 | ............ | + 2 39 1·3 |
|  | (c) Moon South Limb ... | 33·9 | ...... | +0·3 | 97 30 35·3 | +11·5 | ...... | ...... | ...... | + 1 56·0 | ............ | − 7 27 16·9 |
|  | (d) ........................ | ...... | 44·6 | +0·3 | 97 30 43·7 | ...... | ...... | ...... | ...... | + 1 56·0 | ............ | − 7 27 13·8 |
|  | (e) ........................ | 57·6 | 59·9 | +0·3 | 97 30 59·0 | −13·4 | 33·2 | 29·03 | 34·8 | + 1 56·0 | ............ | − 7 27 15·7 |
| Feb. 28 | (f) Sun North Limb ..... | 5·0 | 6·2 | +0·3 | 97 47 5·9 | + 0·3 | 39·1 | 28·79 | 39·3 | + 1 54·9 | 3·0 | − 7 43 34·9 |
|  | (g) α Ursæ Minoris ....... | 8·3 | 12·6 | −0·5 | 1 37 9·9 | +28·6 | 42·4 | 28·86 | 40·4 | − 0 36·3 | ............ | +88 28 24·0 |
|  | (h) ........................ | 37·2 | 41·4 | −0·5 | 1 37 38·9 | ...... | ...... | ...... | ...... | − 0 36·3 | ............ | +88 28 23·6 |
| Mar. 1 | Sun South Limb ..... | 40·9 | 42·0 | +0·3 | 97 56 41·7 | ...... | 41·6 | 28·65 | 41·3 | + 1 54·7 | 3·4 | − 7 53 9·8 |
|  | (i) α Ursæ Minoris ....... | 11·1 | 16·4 | −0·5 | 1 37 13·2 | +26·1 | ...... | ...... | ...... | − 0 36·1 | ............ | +88 28 23·4 |
|  | (a) Mars Centre ........ | 1·2 | 3·8 | +0·2 | 85 50 2·7 | + 0·2 | 41·8 | 28·66 | 42·0 | + 1 11·6 | ............ | + 4 14 12·1 |
|  | α Ursæ Minoris ...... | 37·1 | 41·8 | −0·5 | 1 37 39·0 | ...... | ...... | ...... | ...... | − 0 36·1 | ....... .... | +88 28 23·7 |
|  | (k) ........................ | 11·8 | 16·3 | −0·5 | 1 37 13·5 | +26·1 | 41·9 | 28·66 | 42·4 | − 0 36·1 | ............ | +88 28 23·1 |
|  | γ Ceti ........ | 6·2 | 10·0 | +0·2 | 87 30 8·3 | ...... | 40·0 | 28·69 | 41·6 | + 1 16·4 | ............ | + 2 34 1·9 |
|  | (l) Nadir ........ | 63·5<br>58·8 | 67·8<br>63·2 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | β Ursæ Minoris S.P. | 4·8 | 9·9 | −0·5 | 344 54 6·9 | ...... | ...... | ...... | ...... | − 1 5·9 | ............ | +77 47 34·4 |
|  | β Persei ........ | 21·8 | 24·0 | +0·1 | 49 44 23·0 | ...... | ...... | ...... | ...... | + 0 15·9 | ............ | +40 20 47·7 |
|  | (m) Nadir ........ | 59·0<br>63·5 | 63·7<br>68·0 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | (a) α Persei ........ | 26·2 | 28·4 | 0·0 | 40 47 27·2 | +0·2 | 40·1 | 28·71 | 41·6 | + 0 6·6 | ............ | +49 17 52·6 |
| Mar. 2 | (f) 18 Argus ........ | 22·0 | 21·0 | +0·4 | 103 23 21·9 | − 0·2 | ...... | ...... | ...... | + 2 32·7 | 3·6 | −13 20 27·6 |
|  | 20 Argus ........ | 44·0 | 43·5 | +0·4 | 105 21 44·1 | ...... | ...... | ...... | ...... | + 2 50·0 | ............ | −15 19 7·3 |
|  | 21 Argus ........ | 39·6 | 38·9 | +0·4 | 105 50 39·6 | ...... | 35·9 | 29·15 | 38·1 | + 2 54·7 | ............ | −15 48 7·5 |
|  | 1 Hydræ ........ | 32·0 | 32·7 | +0·3 | 93 18 32·7 | ...... | ...... | ...... | ...... | + 1 37·4 | ............ | − 3 14 43·3 |
|  | λ Ursæ Minoris S.P. | 6·2 | 8·8 | −0·6 | 358 56 6·9 | ...... | ...... | ...... | ...... | − 0 41·1 | .. .......... | +88 49 59·0 |
|  | δ Hydræ ........ | 23·2 | 24·9 | +0·2 | 83 49 24·3 | ...... | ...... | ...... | ...... | + 1 8·6 | ............ | + 6 14 53·9 |
|  | 6 Hydræ ........ | 28·9 | 29·6 | +0·4 | 101 58 29·7 | ...... | ...... | ...... | ...... | + 2 22·2 | ............ | −11 55 25·1 |
|  | (a) 9 Hydræ ........ | 32·3 | 31·5 | +0·4 | 105 25 32·3 | − 0·1 | ...... | ...... | ...... | + 2 50·6 | ... ......... | −15 22 56·0 |
|  | ε Hydræ ........ | 47·6 | 49·8 | +0·2 | 83 4 48·9 | ...... | ...... | ...... | ...... | + 1 6·9 | ............ | + 6 59 31·0 |
|  | $\varrho^1$ Cancri ........ | 12·1 | 13·6 | +0·1 | 61 14 13·0 | ...... | ...... | ...... | ...... | + 0 29·8 | ............ | +28 50 44·0 |
|  | 21 Hydræ ........ | 43·1 | 44·6 | +0·3 | 96 31 44·1 | ...... | ...... | ...... | ...... | + 1 51·1 | ............ | − 6 28 8·4 |
|  | 77 Draconis S.P. ..... | 23·7 | 27·0 | −0·5 | 347 35 24·8 | ...... | ...... | ...... | ...... | − 1 1·5 | ............ | +77 28 56·5 |
|  | 40 Lyncis ........ | 46·6 | 48·5 | +0·1 | 55 1 47·6 | ...... | ...... | ...... | ...... | + 0 22·3 | ............ | +35 3 16·9 |
|  | ϰ Leonis ........ | 31·4 | 31·0 | +0·1 | 63 13 31·3 | ...... | ...... | ...... | ...... | + 0 32·5 | ............ | +26 51 23·0 |
|  | (n) 28 Hydræ ........ | 17·9 | 19·0 | +0·3 | 94 30 18·7 | 0·0 | ...... | ...... | ...... | + 1 42·3 | ............ | − 4 26 34·2 |
|  | α Hydræ ........ | 16·2 | 18·8 | +0·3 | 98 2 17·7 | ...... | ...... | ...... | ...... | + 1 58·6 | ............ | − 7 58 49·5 |
|  | $\tau^2$ Hydræ ........ | 36·9 | 38·2 | +0·2 | 90 33 37·8 | ...... | ...... | ...... | ...... | + 1 27·8 | ............ | − 0 29 38·8 |
|  | Groombridge 1562 ... | 38·0 | 40·6 | −0·4 | 10 14 38·9 | ...... | ...... | ...... | ...... | − 0 25·9 | ............ | +79 51 13·8 |
|  | 13 Leonis ........ | 19·0 | 19·8 | +0·1 | 63 27 19·4 | ...... | ...... | ...... | ...... | + 0 32·8 | ............ | +26 37 34·6 |
|  | ε Leonis ........ | 4·7 | 6·3 | +0·1 | 65 35 5·6 | ...... | 35·9 | 29·20 | 38·2 | + 0 35·7 | ............ | +24 29 45·5 |

(a) Wire IV.
(b) At $11^h 10^m$.
(c) At $12^h 9^m 33^s$.
(d) At $12^h 10^m 15^s$.

(e) At $12^h 11^m 3^s$.
(f) Wire V.
(g) Wire I. at $0^h 38^m 28^s$.

(h) At $1^h 1^m 48^s$.
(i) At $0^h 39^m 32^s$.
(k) Wire V. at $1^h 24^m 3^s$.

(l) At $2^h 45^m$.
(m) At $3^h 5^m$.
(n) Wire III.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Mar. 2 | (a) Nadir | 58·8<br>63·6 | 63·3<br>68·3 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | 304 8 3·6 | ............. |
|  | ...................... | 63·7<br>58·8 | 68·9<br>64·0 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............. |
| Mar. 3 | (b) θ Hydræ | 40·0 | 40·0 | +0·2 | 87 5 40·2 | 0·0 | 41·0 | 29·11 | 40·9 | + 1 16·2 | 2·8 | + 2 58 29·6 |
|  | (b) 24 Ursæ Majoris | 32·3 | 33·9 | −0·3 | 19 34 32·8 | + 0·5 | ...... | ...... | ...... | − 0 14·9 | ............ | +70 31 7·6 |
| Mar. 4 | Sun North Limb | 39·9 | 42·5 | +0·3 | 96 15 41·5 | ...... | 41·0 | 29·35 | 40·6 | + 1 49·4 | ............ | − 6 12 4·9 |
|  | Mars Centre | 19·2 | 22·0 | +0·2 | 84 55 20·8 | ...... | 41·9 | 29·36 | 41·7 | + 1 11·0 | ............ | + 5 8 54·2 |
|  | (c) α Ursæ Minoris | 37·2 | 41·1 | −0·5 | 1 37 38·7 | + 1·5 | ...... | ...... | ...... | − 0 36·9 | ............ | +88 28 22·7 |
|  | (d) ...................... | 39·7 | 44·1 | −0·5 | 1 37 41·5 | 0·0 | ...... | ...... | ...... | − 0 36·9 | ............ | +88 28 21·4 |
| Mar. 5 | (e) Nadir | 57·2<br>62·1 | 62·1<br>66·9 | −0·1 | 214 8 2·0 | ...... | ...... | ...... | ...... | ......... | 2·1 | ............. |
|  | ...................... | 61·9<br>57·8 | 67·2<br>62·6 | −0·1 | 214 8 2·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............. |
| Mar. 7 | Sun South Limb | 22·5 | 24·2 | +0·3 | 95 38 23·7 | ...... | 49·0 | 29·01 | 45·0 | + 1 43·6 | 2·5 | − 5 34 41·6 |
|  | (f) α Ursæ Minoris | 9·5 | 14·2 | −0·5 | 1 37 11·3 | +28·7 | 50·6 | 28·92 | 47·6 | − 0 35·8 | ............ | +88 28 21·5 |
| Mar. 8 | Sun North Limb | 52·2 | 53·0 | +0·3 | 94 42 52·9 | ...... | 43·7 | 28·89 | 43·5 | + 1 40·5 | 2·9 | − 4 39 7·3 |
|  | (b) β Ursæ Minoris S·P. | 5·7 | 11·0 | −0·5 | 344 54 7·9 | − 0·7 | 42·0 | 28·90 | 43·0 | − 1 6·1 | ............ | +74 47 35·0 |
|  | (g) Nadir | 58·2<br>63·1 | 62·1<br>67·2 | −0·1 | 214 8 2·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............. |
|  | ...................... | 63·2<br>58·7 | 68·3<br>63·3 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............. |
| Mar. 9 | (h) Sun South Limb | 40·1 | 41·0 | +0·3 | 94 51 40·8 | ...... | 39·7 | 28·93 | 39·9 | + 1 42·1 | 3·9 | − 4 47 55·8 |
|  | (i) α Ursæ Minoris | 35·6 | 39·8 | −0·5 | 1 37 37·3 | + 4·1 | 40·0 | 28·92 | 40·2 | − 0 36·5 | ............ | +88 28 22·2 |
|  | ...................... | 40·5 | 44·3 | −0·5 | 1 37 42·0 | ...... | ...... | ...... | ...... | − 0 36·5 | ............ | +88 28 21·6 |
|  | Mars Centre | 37·0 | 37·9 | +0·2 | 83 25 37·6 | ...... | ...... | ...... | ...... | + 1 6·6 | ............ | + 6 38 42·9 |
|  | β Ursæ Minoris S.P. | 7·0 | 11·8 | −0·5 | 344 54 8·9 | ...... | 39·3 | 28·90 | 40·6 | − 1 6·5 | ............ | +74 47 35·3 |
|  | β Persei | 23·5 | 25·7 | +0·1 | 49 44 24·7 | ...... | ...... | ...... | ...... | + 0 16·0 | ............ | +40 20 46·4 |
|  | (h) α Persei | 26·3 | 27·9 | 0·0 | 40 47 27·0 | ...... | ...... | ...... | ...... | + 0 6·7 | ............ | +49 17 53·4 |
|  | A.S.C. 371 | 10·6 | 11·8 | −0·1 | 30 42 11·1 | ...... | ...... | ...... | ...... | − 0 3·4 | ............ | +59 23 19·4 |
|  | (k) A.S.C. 373 | 41·9 | 43·4 | −0·1 | 31 45 42·5 | + 0·5 | ...... | ...... | ...... | − 0 2·4 | ............ | +58 19 46·5 |
|  | A.S.C. 400 | 51·4 | 53·5 | +0·1 | 58 17 52·6 | ...... | ...... | ...... | ...... | + 0 25·8 | ............ | +31 47 8·7 |
|  | ε Persei | 5·9 | 7·9 | +0·1 | 50 32 7·0 | ...... | ...... | ...... | ...... | + 0 16·9 | ............ | +39 33 3·2 |
|  | (l) ζ Ursæ Minoris S.P. | 32·2 | 35·9 | −0·5 | 348 22 33·6 | − 0·1 | 39·0 | 28·92 | 40·7 | − 0 58·9 | ............ | +78 16 7·5 |
|  | 10 Argus | 35·5 | 34·5 | +0·4 | 104 29 35·4 | ...... | 36·8 | 28·87 | 39·3 | + 2 40·2 | ............ | −14 26 48·5 |
|  | (b) 19 Argus | 57·5 | 57·5 | +0·4 | 102 30 57·9 | − 0·1 | ...... | ...... | ...... | + 2 24·4 | ............ | −12 27 55·1 |
|  | A.S.C. 1026 | 58·9 | 61·3 | +0·1 | 82 0 0·2 | ...... | ...... | ...... | ...... | + 1 3·7 | ............ | + 8 4 23·2 |
|  | σ Hydræ | 50·7 | 51·2 | +0·2 | 86 10 51·1 | ...... | ...... | ...... | ...... | + 1 13·8 | ............ | + 3 53 22·2 |
|  | 9 Hydræ | 35·0 | 34·0 | +0·4 | 105 25 34·9 | ...... | ...... | ...... | ...... | + 2 48·7 | ............ | −15 22 56·5 |
|  | A.S C. 1075. | 26·8 | 27·2 | +0·2 | 91 23 27·2 | ...... | ...... | ...... | ...... | + 1 29·4 | ............ | − 1 19 29·5 |
|  | ρ¹ Cancri | 9·3 | 10·5 | +0·1 | 61 14 10·0 | ...... | 36·4 | 28·86 | 39·0 | + 0 29·5 | ............ | +28 50 47·6 |
|  | 21 Hydræ | 44·3 | 45·6 | +0·3 | 96 31 45·2 | ...... | ...... | ...... | ...... | + 1 49·8 | ............ | − 6 28 7·9 |
|  | 23 Hydræ | 41·3 | 42·3 | +0·3 | 95 45 42·1 | ...... | ...... | ...... | ...... | + 1 46·3 | ............ | − 5 42 1·3 |
|  | 28 Hydræ | 19·4 | 19·8 | +0·3 | 94 30 19·9 | ...... | ...... | ...... | ...... | + 1 40·9 | ............ | − 4 26 33·7 |
|  | α Hydræ | 19·8 | 20·6 | +0·3 | 98 2 20·4 | ...... | ...... | ...... | ...... | + 1 57·0 | ............ | − 7 58 50·3 |
|  | τ² Hydræ | 39·9 | 39·9 | +0·2 | 90 33 40·1 | ...... | 37·0 | 28·85 | 38·9 | + 1 26·6 | ............ | − 0 29 39·6 |
|  | (m) Groombridge 1562 | 35·7 | 38·5 | −0·4 | 10 14 36·7 | + 0·1 | ...... | ...... | ...... | − 0 25·5 | ............ | +79 51 15·8 |
|  | κ Hydræ | 13·6 | 12·7 | +0·4 | 103 40 13·5 | ...... | ...... | ...... | ...... | + 2 33·1 | ............ | −13 37 19·5 |
|  | ε Leonis | 6·0 | 7·0 | +0·1 | 65 25 6·6 | ...... | ...... | ...... | ...... | + 0 35·0 | ............ | +24 39 45·5 |
|  | 8 Sextantis | 36·0 | 36·0 | +0·3 | 97 25 36·3 | ...... | ...... | ...... | ...... | + 1 54·0 | ............ | − 7 22 3·2 |

(a) At $9^h$ $50^m$.
(b) Wire IV.
(c) At $0^h$ $55^m$ $30^s$.

(d) At $1^h$ $1^m$ $30^s$.
(e) At $9^h$ $45^m$.
(f) Wire I. at $0^h$ $38^m$ $20^s$.

(g) At $4^h$ $0^m$.
(h) Wire III.
(i) At $0^h$ $52^m$ $40^s$.

(k) $45^s$ after transit.
(l) At $3^h$ $50^m$.
(m) At $9^h$ $28^m$ $20^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Mar. 9 | 21 Leonis Minoris | 31·9 | 33·3 | +0·1 | 54 4 32·7 | ...... | ...... | ...... | ...... | + 0 20·9 | 304 8 3·9 | +36 0 33·5 |
| | Groomb. 3707 S.P. | 42·3 | 45·0 | −0·5 | 352 12 43·2 | ...... | ...... | ...... | ...... | − 0 51·7 | ............ | +82 6 24·4 |
| | ζ Leonis | 54·0 | 55·1 | +0·1 | 65 52 54·7 | ...... | ...... | ...... | ...... | + 0 35·6 | ............ | +24 11 56·8 |
| | Piazzi X. 22. | 34·1 | 37·0 | −0·5 | 6 44 35·1 | ...... | 36·9 | 28·87 | 39·0 | − 0 29·8 | ............ | +83 21 21·8 |
| | (*a*) Nadir | 59·5<br>64·0 | 63·8<br>68·4 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 64·2<br>59·3 | 68·5<br>64·5 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Mar. 10 | (*b*) Sun North Limb | 59·3 | 60·7 | +0·3 | 93 56 0·3 | + 0·4 | 38·7 | 29·20 | 39·0 | + 1 39·4 | 3·6 | − 3 52 13·3 |
| | (*c*) α Ursæ Minoris | 15·6 | 19·2 | −0·5 | 1 37 16·8 | +24·7 | 38·8 | 29·24 | 38·8 | − 0 37·1 | ............ | +88 28 22·4 |
| | ...................... | 40·9 | 44·2 | −0·5 | 1 37 42·1 | ...... | ...... | ...... | ...... | − 0 37·1 | ............ | +88 28 21·8 |
| | Mars Centre | 51·9 | 54·0 | +0·2 | 83 7 53·2 | ...... | ...... | ...... | ...... | + 1 6·8 | ............ | + 6 56 26·8 |
| | β Ursæ Minoris S.P. | 7·5 | 12·8 | −0·5 | 344 54 9·7 | ...... | 38·5 | 29·32 | 39·6 | − 1 7·6 | ............ | +74 47 35·3 |
| | β Persei | 23·1 | 25·7 | +0·1 | 49 44 24·5 | ...... | ...... | ...... | ...... | + 0 16·3 | ............ | +40 20 46·0 |
| | α Persei | 28·1 | 29·9 | 0·0 | 40 47 28·9 | ...... | ...... | ...... | ...... | + 0 6·8 | ............ | +49 17 51·1 |
| | A.S.C. 371 | 10·6 | 12·6 | −0·1 | 30 42 11·5 | ...... | ...... | ...... | ...... | − 0 3·5 | ............ | +59 23 18·8 |
| | (*d*) A.S.C. 373 | 41·0 | 43·5 | −0·1 | 31 45 42·1 | + 0·3 | ...... | ...... | ...... | − 0 2·4 | ............ | +58 19 46·8 |
| | A.S.C. 400 | 51·8 | 53·7 | +0·1 | 58 17 52·9 | ...... | ...... | ...... | ...... | + 0 26·2 | ............ | +31 47 7·7 |
| | ε Persei | 4·7 | 8·2 | +0·1 | 50 32 6·5 | ...... | ...... | ...... | ...... | + 0 17·2 | ............ | +39 33 3·1 |
| | (*e*) $\gamma^1$ Eridani | 34·5 | 33·3 | +0·4 | 104 0 34·3 | 0·0 | 39·1 | 29·35 | 40·5 | + 2 37·8 | ............ | −13 57 45·3 |
| | (*d*) 38 Lyncis | 9·5 | 12·2 | +0·1 | 52 37 10·9 | + 0·1 | 37·3 | 29·47 | 38·4 | + 0 19·7 | ............ | +37 27 56·1 |
| | 23 Ursæ Majoris | 43·0 | 45·4 | −0·2 | 26 20 44·0 | ...... | ...... | ...... | ...... | − 0 8·0 | ............ | +63 44 50·8 |
| | (*f*) Nadir | 59·0<br>64·4 | 62·6<br>67·8 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 64·7<br>59·8 | 68·0<br>63·3 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Mar. 11 | (*g*) α Persei | 25·9 | 29·0 | 0·0 | 40 47 27·4 | + 0·6 | 43·8 | 29·01 | 43·6 | + 0 6·7 | ............ | +49 17 52·1 |
| | (*h*) A.S.C. 400 | 49·8 | 52·7 | +0·1 | 58 17 51·4 | + 1·2 | ...... | ...... | ...... | + 0 25·6 | ............ | +31 47 8·6 |
| | (*e*) ε Persei | 4·1 | 9·0 | +0·1 | 50 32 6·6 | 0·0 | ...... | ...... | ...... | + 0 16·8 | ............ | +39 33 3·4 |
| | $\gamma^1$ Eridani | 34·8 | 35·5 | +0·4 | 104 0 35·5 | ...... | 44·5 | 29·03 | 44·0 | + 2 34·4 | ............ | −13 57 43·1 |
| | A.S.C. 1026 | 58·5 | 61·8 | +0·1 | 82 0 0·2 | ...... | ...... | ...... | ...... | + 1 3·0 | ............ | + 8 4 23·6 |
| | (*i*) 2 Hydræ | 20·4 | 23·1 | +0·3 | 93 32 22·0 | − 0·1 | 43·0 | 29·04 | 42·8 | + 1 36·5 | ............ | − 3 28 31·6 |
| | σ Hydræ | 51·3 | 52·4 | +0·2 | 86 10 52·0 | ...... | ...... | ...... | ...... | + 1 13·3 | ............ | + 3 53 21·5 |
| | A.S.C. 1075 | 24·8 | 27·0 | +0·2 | 91 23 26·1 | ...... | ...... | ...... | ...... | + 1 28·8 | ............ | − 1 19 28·1 |
| | $\varrho^1$ Cancri | 8·8 | 11·0 | +0·1 | 61 14 10·0 | ...... | ...... | ...... | ...... | + 0 29·3 | ............ | +28 50 47·5 |
| | (*e*) θ Hydræ | 43·6 | 43·8 | +0·2 | 87 5 43·9 | 0·0 | ...... | ...... | ...... | + 1 15·7 | ............ | + 2 58 27·2 |
| | 23 Hydræ | 41·4 | 43·9 | +0·3 | 95 45 42·9 | ...... | 42·8 | 29·04 | 42·8 | + 1 45·6 | ............ | − 5 42 1·7 |
| | α Hydræ | 16·8 | 19·0 | +0·3 | 98 2 18·1 | ...... | ...... | ...... | ...... | + 1 56·3 | ............ | − 7 58 47·6 |
| | $\tau^1$ Hydræ | 59·6 | 62·7 | +0·3 | 92 9 1·5 | ...... | ...... | ...... | ...... | + 1 31·4 | ............ | − 2 5 6·1 |
| | 13 Leonis | 18·3 | 20·5 | +0·1 | 63 27 19·4 | ...... | ...... | ...... | ...... | + 0 32·1 | ............ | +26 37 35·3 |
| | ε Leonis | 4·0 | 6·8 | +0·1 | 65 35 5·5 | ...... | ...... | ...... | ...... | + 0 35·0 | ............ | +24 29 46·3 |
| | 6 Sextantis | 20·7 | 24·2 | +0·3 | 93 34 22·8 | ...... | ...... | ...... | ...... | + 1 36·7 | ............ | − 3 30 32·7 |
| | (*e*) 8 Sextantis | 35·0 | 35·8 | +0·3 | 97 25 35·7 | 0·0 | ...... | ...... | ...... | + 1 53·6 | ............ | − 7 22 2·5 |
| | 21 Leonis Minoris | 30·0 | 32·6 | +0·1 | 54 4 31·4 | ...... | ...... | ...... | ...... | + 0 20·8 | ............ | +36 0 34·6 |
| | 21 Sextantis | 28·3 | 29·1 | +0·3 | 97 16 29·0 | ...... | ...... | ...... | ...... | + 1 52·7 | ............ | − 7 12 54·9 |
| | Piazzi X. 22. | 32·2 | 35·9 | −0·5 | 6 44 33·6 | ...... | ...... | ...... | ...... | − 0 29·7 | ............ | +83 21 22·9 |
| | 26 Sextantis | 24·0 | 26·0 | +0·2 | 90 15 25·2 | ...... | 43·2 | 29·13 | 42·8 | + 1 25·2 | ............ | − 0 11 23·6 |
| Mar. 12 | Sun South Limb | 6·3 | 8·2 | +0·3 | 93 41 7·5 | ...... | 45·8 | 29·53 | 45·0 | + 1 38·1 | 3·5 | − 3 37 18·9 |
| | (*k*) α Ursæ Minoris | 11·0 | 16·4 | −0·5 | 1 37 13·2 | +28·6 | 47·6 | 29·50 | 46·1 | − 0 36·7 | ............ | +88 28 21·6 |
| | (*e*) $\varrho^2$ Cancri | 11·1 | 13·4 | +0·1 | 61 9 12·4 | 0·0 | 43·8 | 29·28 | 43·9 | + 0 29·4 | ............ | +28 55 44·9 |
| | (*d*) 38 Lyncis | 9·1 | 12·3 | +0·1 | 52 37 10·8 | + 0·1 | ...... | ...... | ...... | + 0 19·3 | ............ | +37 27 56·5 |
| | 23 Ursæ Majoris | 41·8 | 44·0 | −0·2 | 26 20 42·7 | ...... | ...... | ...... | ...... | − 0 7·9 | ............ | +63 44 51·9 |
| | 24 Ursæ Majoris | 31·3 | 33·5 | −0·3 | 19 34 32·1 | ...... | ...... | ...... | ...... | − 0 15·0 | ............ | +70 31 9·6 |

(*a*) At $10^h 25^m$.
(*b*) Wire V.
(*c*) At $0^h 40^m$.
(*d*) Wire IV.
(*e*) Wire III.
(*f*) At $10^h 10^m$.
(*g*) $45^s$ after transit.
(*h*) At $3^h 35^m 15^s$.
(*i*) $1^m$ after transit.
(*k*) Wire I.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Mar. 12 | 13 Leonis | 18·0 | 20·0 | +0·1 | 63 27 19·0 | …… | …… | …… | …… | + 0 32·3 | 304 8 3·5 | +26 37 35·4 |
| | 6 Sextantis | 20·9 | 23·9 | +0·3 | 93 34 22·7 | …… | …… | …… | …… | + 1 37·2 | ………… | − 3 30 33·2 |
| | (*a*) 8 Sextantis | 35·9 | 37·3 | +0·3 | 97 25 36·9 | 0·0 | …… | …… | …… | + 1 54·0 | ………… | − 7 22 4·2 |
| | 15 Sextantis | 21·0 | 24·1 | +0·2 | 89 40 22·7 | …… | …… | …… | …… | + 1 23·6 | ………… | + 0 23 40·4 |
| | 18 Sextantis | 13·2 | 15·3 | +0·3 | 97 42 14·5 | …… | …… | …… | …… | + 1 55·2 | ………… | − 7 38 43·0 |
| | (*b*) 21 Sextantis | 30·6 | 31·8 | +0·3 | 97 16 31·5 | 0·0 | …… | …… | …… | + 1 53·0 | ………… | − 7 12 57·8 |
| | (*a*) 22 Sextantis | 42·2 | 44·5 | +0·3 | 97 20 43·6 | 0·0 | 44·4 | 29·24 | 44·4 | + 1 53·3 | ………… | − 7 17 10·2 |
| | 26 Sextantis | 26·5 | 28·6 | +0·2 | 90 15 27·7 | …… | …… | …… | …… | + 1 25·4 | ………… | − 0 11 26·4 |
| | 28 Sextantis | 5·3 | 8·0 | +0·3 | 92 0 6·9 | …… | …… | …… | …… | + 1 31·2 | ………… | − 1 56 11·4 |
| | (*c*) Nadir | 58·7<br>63·3 | 63·0<br>68·4 | −0·1 | 214 8 3·3 | …… | …… | …… | …… | ……… | ………… | ………… |
| | …… | 63·5<br>59·0 | 69·0<br>64·1 | −0·1 | 214 8 3·7 | …… | …… | …… | …… | ……… | ………… | ………… |
| Mar. 14 | ϱ² Cancri | 10·8 | 12·8 | +0·1 | 61 9 11·9 | …… | 49·4 | 29·78 | 49·5 | + 0 29·5 | 3·4 | +28 55 45·2 |
| Mar. 15 | (*d*) α Ursæ Minoris | 12·1 | 17·8 | −0·5 | 1 37 14·4 | +28·6 | 54·9 | 29·81 | 53·0 | − 0 36·5 | ………… | +88 28 20·1 |
| | …… | 40·2 | 45·7 | −0·5 | 1 37 42·5 | …… | …… | …… | …… | − 0 36·5 | ………… | +88 28 20·6 |
| | (*e*) …… | 15·7 | 21·1 | −0·5 | 1 37 17·8 | +25·1 | …… | …… | …… | − 0 36·5 | ………… | +88 28 20·2 |
| Mar. 16 | Mercury Centre | 6·0 | 7·0 | +0·4 | 99 8 6·9 | …… | 44·1 | 29·58 | 44·0 | + 2 4·1 | 3·2 | − 9 4 44·6 |
| | (*f*) Nadir | 59·0<br>63·7 | 62·2<br>68·0 | −0·1 | 214 8 3·2 | …… | …… | …… | …… | ……… | ………… | ………… |
| | …… | 63·0<br>58·9 | 67·9<br>63·2 | −0·1 | 214 8 3·1 | …… | …… | …… | …… | ……… | ………… | ………… |
| Mar. 17 | Sun South Limb | 54·0 | 57·0 | +0·3 | 91 42 55·8 | …… | 46·1 | 29·54 | 45·3 | + 1 30·9 | ………… | − 1 39 0·3 |
| | (*g*) α Ursæ Minoris | 24·7 | 28·6 | −0·5 | 1 37 26·1 | +16·3 | …… | …… | …… | − 0 36·7 | ………… | +88 28 20·7 |
| | (*h*) …… | 21·2 | 26·8 | −0·5 | 1 37 23·4 | +19·4 | 47·5 | 29·47 | 47·0 | − 0 36.7 | ………… | +88 28 20·3 |
| | (*a*) Groomb. 3707 S.P. | 39·8 | 43·3 | −0·5 | 352 12 41·1 | 0·0 | …… | …… | …… | − 0 51·2 | ………… | +82 6 23·5 |
| | ζ Leonis | 53·0 | 54·7 | +0·1 | 65 52 54·0 | …… | …… | …… | …… | + 0 35·3 | ………… | +24 11 57·1 |
| | Piazzi X. 22 | 30·0 | 33·5 | −0·5 | 6 44 31·3 | …… | 43·2 | 28·99 | 45·0 | − 0 29·6 | ………… | +83 21 24·7 |
| | 27 Sextantis | 14·0 | 15·1 | +0·3 | 93 39 14·9 | …… | …… | …… | …… | + 1 36·7 | ………… | − 3 35 25·2 |
| | 28 Sextantis | 5·3 | 7·5 | +0·3 | 92 0 6·7 | …… | …… | …… | …… | + 1 30·7 | ………… | − 1 56 11·0 |
| | φ³ Hydræ et Crateris | 16·3 | 15·2 | +0·4 | 106 6 16·1 | …… | …… | …… | …… | + 2 53·6 | ………… | −16 3 43·3 |
| | 40 Leonis Minoris | 54·5 | 54·5 | +0·1 | 62 55 54·6 | …… | …… | …… | …… | + 0 31·4 | ………… | +27 9 0·4 |
| | 46 Leonis Minoris | 21·2 | 22·8 | +0·1 | 55 1 22·1 | …… | …… | …… | …… | + 0 21·8 | ………… | +35 3 42·5 |
| | (*b*) 54 Leonis | 38·1 | 38·1 | +0·1 | 64 29 38·2 | + 0·1 | …… | …… | …… | + 0 33·5 | ………… | +25 35 14·6 |
| | β Ursæ Majoris | 55·2 | 57·7 | −0·1 | 32 51 56·3 | …… | …… | …… | …… | − 0 1·3 | ………… | +57 13 31·4 |
| | Piazzi XXII. 295 S.P. | 17·9 | 21·9 | −0·6 | 353 36 19·3 | …… | 42·8 | 29·03 | 43·8 | − 0 48·9 | ………… | +83 30 4·0 |
| Mar. 18 | Sun North Limb | 5·7 | 9·1 | +0·2 | 90 47 7·6 | …… | 43·0 | 28·94 | 43·9 | + 1 26·4 | 3·2 | − 0 43 7·6 |
| | Venus Centre | 3·6 | 5·1 | +0·2 | 91 0 4·5 | …… | …… | …… | …… | + 1 27·2 | ………… | − 0 56 5·3 |
| | (*i*) α Ursæ Minoris | 30·0 | 33·8 | −0·5 | 1 37 31·3 | +11·2 | …… | …… | …… | − 0 36·4 | ………… | +88 28 20·3 |
| | (*a*) …… | 41·6 | 45·8 | −0·5 | 1 37 43·3 | …… | 42·1 | 28·92 | 44·4 | − 0 36·4 | ………… | +88 28 19·5 |
| | Mars Centre | 7·5 | 8·7 | +0·1 | 80 49 8·2 | …… | 43·0 | …… | …… | + 1 0·4 | ………… | + 9 15 17·8 |
| | (*k*) Moon South Limb | 32·5 | …… | +0·1 | 64 55 33·2 | − 1·6 | …… | …… | …… | + 0 34·2 | ………… | +25 9 20·6 |
| | (*l*) …… | …… | 32·9 | +0·1 | 64 55 32·3 | − 0·1 | …… | …… | …… | + 0 34·2 | ………… | +25 9 20·0 |
| | (*m*) …… | 28·8 | 30·1 | +0·1 | 64 55 29·5 | + 1·9 | 40·0 | 28·91 | 43·3 | + 0 34·2 | ………… | +25 9 20·8 |
| | 9 Hydræ | 34·0 | 33·1 | +0·4 | 105 25 33·9 | …… | 35·6 | 28·92 | 40·6 | + 2 49·3 | ………… | −15 22 56·8 |
| | (*b*) ϱ Hydræ | 24·4 | 25·7 | +0·2 | 83 39 25·3 | 0·0 | …… | …… | …… | + 1 7·7 | ………… | + 6 24 53·4 |
| | (*b*) θ Hydræ | 41·7 | 41·9 | +0·2 | 87 5 42·0 | 0·0 | …… | …… | …… | + 1 16·6 | ………… | + 2 58 27·8 |
| | 23 Hydræ | 40·6 | 42·0 | +0·3 | 95 45 41·6 | …… | …… | …… | …… | + 1 46·8 | ………… | − 5 42 2·0 |
| | 23 Ursæ Majoris | 40·6 | 41·7 | −0·2 | 26 20 40·9 | …… | …… | …… | …… | − 0 7·8 | ………… | +63 44 53·3 |
| | 24 Ursæ Majoris | 28·8 | 30·5 | −0·3 | 19 34 29·4 | …… | …… | …… | …… | − 0 15·0 | ………… | +70 31 12·0 |
| | ϰ Hydræ | 13·3 | 14·6 | +0·4 | 103 40 14·3 | …… | …… | …… | …… | + 2 33·6 | ………… | −13 37 21·5 |

(*a*) Wire III.
(*b*) Wire IV.
(*c*) At 10ʰ 35ᵐ.

(*d*) Wire I. at 0ʰ 38ᵐ 13ˢ.
(*e*) At 1ʰ 23ᵐ 24ˢ.
(*f*) At 22ʰ 40ᵐ.

(*g*) At 0ʰ 43ᵐ 50ˢ.
(*h*) At 1ʰ 20ᵐ 45ˢ.
(*i*) At 0ʰ 46ᵐ 55ˢ; preced. divisions.

(*k*) At 4ʰ 40ᵐ 14ˢ.
(*l*) At 4ʰ 41ᵐ 4ˢ.
(*m*) At 4ʰ 41ᵐ 44ˢ.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Mar. 18 | ε Leonis | 3·5 | 5·1 | +0·1 | 65 35 4·4 | ...... | 36·2 | 28·90 | 38·0 | + 0 35·3 | 304 8 3·2 | +24 29 46·7 |
| | $\upsilon^1$ Hydræ | 29·9 | 30·0 | +0·4 | 104 9 30·4 | ...... | ...... | ...... | ...... | + 2 37·6 | ............ | −14 6 41·6 |
| | 15 Sextantis | 21·2 | 22·3 | +0·2 | 89 40 21·9 | ...... | ...... | ...... | ...... | + 1 23·9 | ............ | + 0 23 40·6 |
| | Groomb. 3707 S.P. | 40·2 | 43·2 | −0·5 | 352 12 41·3 | ...... | ...... | ...... | ...... | − 0 51·8 | ............ | +82 6 23·1 |
| | ζ Leonis | 52·4 | 53·7 | +0·1 | 65 52 53·2 | ...... | ...... | ...... | ...... | + 0 35·7 | ............ | +24 11 57·5 |
| | 22 Sextantis | 40·8 | 42·2 | +0·3 | 97 20 41·8 | ...... | ...... | ...... | ...... | + 1 53·9 | ............ | − 7 17 9·3 |
| | 27 Sextantis | 12·2 | 14·1 | +0·3 | 93 39 13·5 | ...... | ...... | ...... | ...... | + 1 37·9 | ............ | − 3 35 25·0 |
| | 28 Sextantis | 4·0 | 5·6 | +0·3 | 92 0 5·1 | ...... | ...... | ...... | ...... | + 1 31·8 | ............ | − 1 56 10·5 |
| | $\varphi^3$ Hydræ et Crateris | 13·0 | 14.9 | +0·4 | 106 6 14·3 | ...... | ...... | ...... | ...... | + 2 55·6 | ............ | −16 3 43·5 |
| | 40 Leonis Minoris | 54·2 | 55·5 | +0·1 | 62 55 54·9 | ...... | ...... | ...... | ...... | + 0 31·8 | ............ | +27 8 59·7 |
| | ν Hydræ et Crateris | 0·3 | 1·6 | +0·4 | 105 25 1·3 | ...... | ...... | ...... | ...... | + 2 49·0 | ............ | −15 22 23·9 |
| | 46 Leonis Minoris | 21·6 | 22·2 | +0·1 | 55 1 22·0 | ...... | ...... | ...... | ...... | + 0 22·1 | ............ | +35 3 42·3 |
| | 54 Leonis, preceding | 38·0 | 38·6 | +0·1 | 64 29 38·4 | ...... | ...... | ...... | ...... | + 0 33·9 | ............ | +25 35 14·1 |
| | β Ursæ Majoris | 54·9 | 56·2 | −0·1 | 32 51 55·4 | ...... | ...... | ...... | ...... | − 0 1·3 | ............ | +57 13 32·3 |
| | Piazzi XXII. 295 S.P. | 18·5 | 21·0 | −0·6 | 353 36 19·1 | ...... | 35·7 | 28·90 | 37·1 | − 0 49·4 | ............ | +83 30 3·3 |
| Mar. 19 | Sun South Limb | 33·1 | 34·8 | +0·2 | 90 55 34·1 | ...... | 39·9 | 28·79 | 40·2 | + 1 27·1 | 3·3 | − 0 51 34·7 |
| | Venus Centre | 35·9 | 36·8 | +0·2 | 90 29 36·6 | ...... | ...... | ...... | ...... | + 1 25·6 | ............ | − 0 25 35·7 |
| | (a) α Ursæ Minoris | 13·9 | 18·2 | −0·5 | 1 37 15·5 | +28·6 | ...... | ...... | ...... | − 0 36·3 | ............ | +88 28 18·7 |
| | ........................ | 42·5 | 46·0 | −0·5 | 1 37 43·8 | ...... | ...... | ...... | ...... | − 0 36·3 | ............ | +88 28 19·0 |
| | (b) ........................ | 16·2 | 20·0 | −0·5 | 1 37 17·5 | +26·2 | 40·6 | 28·78 | 41·0 | − 0 36·3 | ............ | +88 28 19·1 |
| | Mars Centre | 12·0 | 15·1 | +0·1 | 80 32 13·6 | ...... | ...... | ...... | ...... | + 0 59·8 | ............ | + 9 32 13·1 |
| | β Ursæ Minoris S.P. | 7·0 | 11·7 | −0·5 | 344 54 8·9 | ...... | 42·8 | ...... | ...... | − 1 5·7 | ............ | +74 47 36·7 |
| | β Persei | 25·0 | 27·5 | +0·1 | 49 44 26·4 | ...... | ...... | ...... | ...... | + 0 15·8 | ............ | +40 20 44·3 |
| | A.S.C. 371 | 11·4 | 13·4 | −0·1 | 30 42 12·3 | ...... | ...... | ...... | ...... | − 0 3·4 | ............ | +59 23 17·6 |
| | (c) Nadir | 59·8<br>63·8 | 62·8<br>68·1 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 63·4<br>58·5 | 67·6<br>63·0 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | (d) Moon South Limb | 41·2 | ...... | +0·1 | 64 45 42·2 | + 1·3 | ...... | ...... | ...... | + 0 33·7 | ............ | +25 19 9·3 |
| | (e) ........................ | ...... | 44·1 | +0·1 | 64 45 43·3 | + 0·1 | ...... | ...... | ...... | + 0 33·7 | ............ | +25 19 9·4 |
| | (f) ........................ | 46·0 | 47·8 | +0·1 | 64 45 47·0 | − 0·5 | 41·1 | 28·76 | 42·7 | + 0 33·7 | ............ | +25 19 6·3 |
| | 74 Orionis | 54·0 | 57·8 | +0·1 | 77 45 56·0 | ...... | ...... | ...... | ...... | + 0 54·2 | ............ | +12 18 36·3 |
| | μ Geminorum | 26·5 | 28·3 | +0·1 | 67 29 27·5 | ...... | ...... | ...... | ...... | + 0 37·4 | ............ | +22 35 21·6 |
| | 8 Monocerotis | 12·7 | 14·1 | +0·2 | 85 24 13·6 | ...... | ...... | ...... | ...... | + 1 10·9 | ............ | + 4 40 2·0 |
| | δ Ursæ Minoris S.P. | 19·1 | 23·4 | −0·6 | 356 41 20·6 | ...... | ...... | ...... | ...... | − 0 43·6 | ............ | +86 35 10·5 |
| | 15 Monocerotis | 17·0 | 20·2 | +0·1 | 80 2 18·6 | ...... | ...... | ...... | ...... | + 0 58·7 | ............ | +10 2 9·2 |
| | ε Geminorum | 56·8 | 57·5 | +0·1 | 64 47 57·3 | ...... | ...... | ...... | ...... | + 0 33·8 | ............ | +25 16 55·4 |
| | 16 Monocerotis | 30·3 | 32·5 | +0·1 | 81 19 31·5 | ...... | ...... | ...... | ...... | + 1 1·5 | ............ | + 8 44 53·5 |
| | 18 Monocerotis | 25·9 | 28·2 | +0·2 | 87 29 27·3 | ...... | 40·5 | 28·78 | 42·4 | + 1 16·5 | ............ | + 2 34 42·7 |
| | θ Canis Majoris | 58·0 | 59·9 | +0·4 | 101 53 59·4 | ...... | ...... | ...... | ...... | + 2 18·5 | ............ | −11 50 51·4 |
| | (g) ϱ Hydræ | 24·7 | 26·1 | +0·2 | 83 39 25·6 | + 0·3 | 39·2 | 28·82 | 41·7 | + 1 7·0 | ............ | + 6 24 53·6 |
| | 24 Hydræ | 1·0 | 3·0 | +0·3 | 98 9 2·3 | ...... | ...... | ...... | ...... | + 1 56·9 | ............ | − 8 5 32·7 |
| | $\tau^1$ Hydræ | 0·2 | 2·1 | +0·3 | 92 9 1·5 | ...... | ...... | ...... | ...... | + 1 31·5 | ............ | − 2 5 6·5 |
| | $\upsilon^1$ Hydræ | 33·5 | 33·8 | +0·4 | 104 9 34·1 | ...... | 38·6 | 28·84 | 41·5 | + 2 36·5 | ............ | −14 6 44·1 |
| | 15 Sextantis | 21·0 | 23·6 | +0·2 | 89 40 22·5 | ...... | ...... | ..... | ...... | + 1 23·4 | ............ | + 0 23 40·6 |
| | 18 Sextantis | 15·0 | 16·8 | +0·3 | 97 42 16·2 | ...... | ...... | ...... | ...... | + 1 54·8 | ............ | − 7 38 44·5 |
| | 35 Leonis | 50·4 | 53·0 | +0·1 | 65 47 51·8 | ...... | ...... | ...... | ...... | + 0 35·4 | ............ | +24 16 59·3 |
| | 27 Sextantis | 14·5 | 15·0 | +0·3 | 93 39 15·1 | ...... | ...... | ...... | ...... | + 1 37·2 | ............ | − 3 35 25·8 |
| | A.S.C. 1245 | 15·6 | 18·1 | +0·3 | 93 0 17·1 | ...... | ...... | ...... | ...... | + 1 34·7 | ............ | − 2 56 25·3 |
| | $\varphi^3$ Hydræ et Crateris | 15·9 | 17·4 | +0·4 | 106 6 17·0 | ...... | ...... | ...... | ...... | + 2 54·4 | ............ | −16 3 44·9 |
| | 40 Leonis Minoris | 54·0 | 55·2 | +0·1 | 62 55 54·7 | ...... | ...... | ...... | ...... | + 0 31·6 | ............ | +27 9 0·2 |
| | ν Hydræ et Crateris | 59·2 | 60·9 | +0·4 | 105 25 0·4 | ...... | ...... | ...... | ...... | + 2 47·8 | ............ | −15 22 21·7 |
| | 46 Leonis Minoris | 20·9 | 22·6 | +0·1 | 55 1 21·8 | ...... | ...... | ...... | ...... | + 0 21·9 | ............ | +35 3 42·8 |
| | 54 Leonis, preceding | 37·1 | 38·0 | +0·1 | 64 29 37·7 | ...... | ...... | ...... | ...... | + 0 33·6 | ............ | +25 35 15·2 |
| | β Ursæ Majoris | 54·9 | 57·2 | −0·1 | 32 51 55·9 | ...... | ...... | ...... | ...... | − 0 1·3 | ............ | +57 13 31·9 |

(a) Wire I. at $0^h 38^m 20^s$.
(b) Wire V. at $1^h 23^m 44^s$.
(c) At $3^h 30^m$.

(d) At $5^h 42^m 47^s$.
(e) At $5^h 43^m 16^s$.

(f) At $5^h 43^m 48^s$.
(g) At $8^h 40^m 42^s$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ ″ | ′ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Mar. 19 | Piazzi XXII. 295 S.P. | 17·9 | 21·0 | −0·6 | 353 36 18·8 | ...... | 38·6 | 28·87 | 41·1 | − 0 49·1 | 304 8 3·3 | +83 30 3·2 |
| Mar. 20 | ε Geminorum | 54·4 | 56·5 | +0·1 | 64 47 55·6 | ...... | 40·4 | 29·38 | 41·5 | + 0 34·5 | 3·6 | +25 16 56·7 |
| Mar. 21 | (a) α Ursæ Minoris | 31·6 | 35·5 | −0·5 | 1 37 33·1 | +12·4 | 39·0 | 29·93 | 40·8 | − 0 37·9 | 4·0 | +88 28 19·6 |
|  | Mars Centre | 37·8 | 40·8 | +0·1 | 79 58 39·4 | ...... | 39·0 | ...... | ...... | + 1 1·2 | ...... | +10 5 46·6 |
|  | (b) Nadir | 59·2<br>64·2 | 63·1<br>68·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
|  | ...... | 65·1<br>60·9 | 68·9<br>63·5 | −0·1 | 214 8 4·4 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
|  | δ Geminorum | 42·0 | 43·9 | +0·1 | 67 48 43·1 | ...... | 37·0 | 29·96 | 39·6 | + 0 39·8 | ...... | +22 16 4·3 |
|  | β Geminorum | 46·2 | 48·9 | +0·1 | 61 40 47·6 | ...... | ...... | ...... | ...... | + 0 31·2 | ...... | +28 24 8·4 |
|  | (c) Moon North Limb | 9·2 | ...... | +0·1 | 69 4 10·6 | + 9·8 | ...... | ...... | ...... | + 0 41·7 | ...... | +21 0 25·1 |
|  | (d) ...... | ...... | 19·5 | +0·1 | 69 4 18·3 | + 0·7 | ...... | ...... | ...... | + 0 41·7 | ...... | +21 0 26·5 |
|  | (e) ...... | 23·2 | 25·8 | +0·1 | 69 4 24·6 | − 6·4 | ...... | ...... | ...... | + 0 41·7 | ...... | +21 0 27·3 |
| Mar. 22 | (f) Moon North Limb | 47·2 | ...... | +0·1 | 73 50 48·8 | + 0·4 | ...... | ...... | ...... | + 0 49·7 | ...... | +16 13 48·3 |
|  | (g) ...... | ...... | 56·4 | +0·1 | 73 50 55·0 | − 6·3 | ...... | ...... | ...... | + 0 49·7 | ...... | +16 13 48·8 |
|  | (h) ...... | 1·1 | 4·1 | +0·1 | 73 51 2·7 | −13·4 | 35·2 | 29·90 | 38·5 | + 0 49·7 | ...... | +16 13 48·2 |
|  | μ Leonis | 7·5 | 10·0 | +0·1 | 63 20 8·9 | ...... | ...... | ...... | ...... | + 0 33·5 | ...... | +26 44 44·8 |
|  | A.S.C. 1215 | 11·0 | 13·2 | +0·3 | 96 36 12·4 | ...... | 34·7 | 29·94 | 38·5 | + 1 54·8 | ...... | − 6 32 40·0 |
|  | (i) 35 Leonis | 49·0 | 51·2 | +0·1 | 65 47 50·2 | 0·0 | ...... | ...... | ...... | + 0 37·0 | ...... | +24 17 0·0 |
|  | 31 Leonis Minoris | 21·7 | 23·5 | +0·1 | 52 34 22·7 | ...... | ...... | ...... | ...... | + 0 20·0 | ...... | +37 30 44·5 |
|  | A.S.C. 1245 | 11·9 | 14·0 | +0·3 | 93 0 13·3 | ...... | ...... | ...... | ...... | + 1 39·1 | ...... | − 2 56 25·2 |
|  | A.S.C. 1266 | 42·5 | 45·3 | −0·3 | 20 11 43·6 | ...... | ...... | ...... | ...... | − 0 14·9 | ...... | +69 53 58·5 |
|  | 41 Leonis Minoris | 10·1 | 12·2 | +0·1 | 66 4 11·2 | ...... | ...... | ...... | ...... | + 0 37·4 | ...... | +24 0 38·6 |
|  | ν Hydræ et Crateris | 52·9 | 51·8 | +0·4 | 105 24 52·7 | ...... | ...... | ...... | ...... | + 2 25·5 | ...... | −15 22 21·0 |
|  | 6 Hydræ et Crateris | 21·0 | 20·3 | +0·5 | 109 19 21·1 | ...... | ...... | ...... | ...... | + 3 43·3 | ...... | −19 17 37·2 |
|  | 50 Leonis Minoris | 31·2 | 31·8 | +0·1 | 63 44 31·6 | ...... | ...... | ...... | ...... | + 0 34·1 | ...... | +26 20 21·5 |
|  | 60 Leonis | 22·2 | 24·2 | +0·1 | 69 3 23·3 | ...... | 34·5 | 29·92 | 37·9 | + 0 41·9 | ...... | +21 1 22·0 |
|  | (k) Nadir | 0·2<br>4·5 | 3·1<br>8·7 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
|  | ...... | 4·8<br>0·1 | 8·1<br>3·8 | −0·1 | 214 8 4·1 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| Mar. 23 | Sun North Limb | 47·5 | 49·9 | +0·2 | 88 48 48·9 | ...... | 39·3 | 29·98 | 39·4 | + 1 23·9 | ...... | + 1 15 14·4 |
|  | (l) Venus Centre | 33·5 | 35·0 | +0·2 | 88 27 34·4 | + 1·2 | ...... | ...... | ...... | + 1 22·8 | ...... | + 1 36 28·8 |
|  | β Persei | 24·6 | 26·7 | +0·1 | 49 44 25·7 | ...... | 41·6 | 29·95 | 41·3 | + 0 16·5 | ...... | +40 20 45·0 |
|  | A.S.C. 1026 | 57·1 | 59·8 | +0·1 | 81 59 58·5 | ...... | ...... | ...... | ...... | + 1 5·5 | ...... | + 8 4 23·2 |
|  | 2 Hydræ | 15·2 | 17·4 | +0·3 | 93 32 16·6 | ...... | 39·4 | 29·94 | 40·2 | + 1 40·3 | ...... | − 3 28 29·7 |
| Mar. 24 | Sun South Limb | 17·4 | 19·9 | +0·2 | 88 57 18·9 | ...... | 50·9 | 29·91 | 47·5 | + 1 22·1 | 2·4 | + 1 6 44·6 |
|  | (m) α Ursæ Minoris | 44·4 | 48·8 | −0·5 | 1 37 46·1 | +0·1 | 52·0 | 29·90 | 49·0 | − 0 36·8 | ...... | +88 28 16·2 |
|  | (n) Nadir | 57·8<br>62·9 | 62·1<br>67·2 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
|  | ...... | 63·5<br>57·8 | 67·1<br>62·0 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
|  | 24 Hydræ | 57·6 | 59·0 | +0·3 | 98 8 58·6 | ...... | 43·5 | 29·84 | 44·1 | + 2 0·0 | ...... | − 8 5 33·0 |
|  | τ¹ Hydræ | 56·5 | 59·6 | +0·3 | 92 8 58·3 | ...... | ...... | ...... | ...... | + 1 33·8 | ...... | − 2 5 6·5 |
|  | υ¹ Hydræ | 28·5 | 28·5 | +0·4 | 104 9 28·9 | ...... | ...... | ...... | ...... | + 2 40·4 | ...... | −14 6 43·7 |
|  | A.S.C. 1215 | 12·8 | 15·1 | +0·3 | 96 36 14·3 | ...... | ...... | ...... | ...... | + 1 52·6 | ...... | − 6 32 41·3 |
|  | 35 Leonis | 48·8 | 51·8 | +0·1 | 65 47 50·4 | ...... | 41·2 | 29·82 | 43·3 | + 0 36·4 | ...... | +24 16 58·8 |
|  | (o) 31 Leonis Minoris | 21·2 | 23·9 | +0·1 | 52 34 22·6 | + 0·1 | ...... | ...... | ...... | + 0 19·7 | ...... | +37 30 43·2 |
|  | (o) A.S.C. 1245 | 12·4 | 15·1 | +0·3 | 93 0 14·1 | 0·0 | ...... | ...... | ...... | + 1 37·4 | ...... | − 2 56 25·9 |
|  | A.S.C. 1266 | 41·3 | 45·0 | −0·3 | 20 11 42·9 | ...... | ...... | ...... | ...... | − 0 14·7 | ...... | +69 53 57·4 |
|  | 41 Leonis Minoris | 10·3 | 12·8 | +0·1 | 66 4 11·6 | ...... | ...... | ...... | ...... | + 0 36·8 | ...... | +24 0 37·2 |

(a) At $1^{h}\ 16^{m}\ 45^{s}$.
(b) At $4^{h}\ 35^{m}$.

(c) At $7^{h}\ 48^{m}\ 4^{s}$. Hazy and faint.
(d) At $7^{h}\ 48^{m}\ 55^{s}$. Hazy and faint.
(e) At $7^{h}\ 49^{m}\ 40^{s}$. Hazy and faint.
(f) At $8^{h}\ 49^{m}\ 28^{s}$.

(g) At $8^{h}\ 49^{m}\ 59^{s}$.
(h) At $8^{h}\ 50^{m}\ 33^{s}$.
(i) Wire III.
(k) At $22^{h}\ 45^{m}$.

(l) At $0^{h}\ 28^{m}\ 12^{s}$.
(m) At $1^{h}\ 2^{m}\ 20^{s}$.
(n) At $4^{h}\ 20^{m}$.
(o) Wire IV.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Mar. 24 | (*a*) Moon North Limb··· | 46·5 | ······ | +0·2 | 86 24 48·0 | + 0·2 | ··· ·· | ······ | ······ | + 1 16·2 | 304 8 2·4 | + 3 39 21·2 |
|  | (*b*) ······················· | ······ | 56·6 | +0·2 | 86 24 55·6 | − 7·9 | ······ | ······ | ······ | + 1 16·2 | ············ | + 3 39 21·7 |
|  | (*c*) ··········· ············ | 1·8 | 4·3 | +0·2 | 86 25 3·3 | −16·5 | ······ | ······ | ······ | + 1 16·2 | ············ | + 3 39 22·6 |
|  | (*d*) 50 Leonis Minoris ··· | 30·1 | 31·7 | +0·1 | 63 44 31·0 | + 0·8 | ······ | ······ | ······ | + 0 33·5 | ············ | +26 20 20·3 |
|  | (*e*) 60 Leonis ············· | 21·3 | 24·6 | +0·1 | 69 3 23·0 | + 0·6 | ······ | ······ | ······ | + 0 41·2 | ············ | +21 1 20·8 |
|  | δ Leonis ··············· | 41·1 | 44·0 | +0·1 | 68 41 42·7 | ······ | ······ | ······ | ······ | + 0 40·6 | ············ | +21 23 2·3 |
|  | ξ Ursæ Majoris ······ | 10·0 | 12·2 | +0·1 | 57 40 11·2 | ······ | 40·5 | 29·78 | 41·2 | + 0 25·7 | ············ | +32 24 48·7 |
| Mar. 25 | (*f*) α Ursæ Minoris ······ | 29·1 | 33·2 | −0·5 | 1 37 30·7 | +16·4 | 46·9 | 29·31 | 46·4 | − 0 36·5 | 3·1 | +88 28 15·7 |
| Mar. 26 | Sun North Limb······ | 10·8 | 13·2 | +0·2 | 87 38 12·2 | ······ | 40·8 | 29·01 | 41·2 | + 1 17·5 | 3·8 | + 2 25 57·3 |
|  | (*g*) Venus Centre········· | 23·2 | 24·0 | +0·2 | 86 56 23·8 | + 1·3 | ······ | ······ | ······ | + 1 15·6 | ············ | + 3 7 46·3 |
|  | (*h*) α Ursæ Minoris ······ | 44·8 | 48·5 | −0·5 | 1 37 46·1 | + 0·1 | 41·5 | 29·03 | 41·5 | − 0 36·6 | ············ | +88 28 17·4 |
|  | (*i*) Mars Centre ·········· | 45·9 | 48·0 | +0·1 | 78 36 47·1 | + 0·9 | 41·8 | 29·03 | 41·9 | + 0 56·3 | ············ | +11 27 42·7 |
|  | (*k*) ϱ Hydræ ················ | 24·0 | 25·2 | +0·2 | 83 39 24·8 | 0·0 | 35·6 | 29·17 | 38·8 | + 1 8·3 | ············ | + 6 24 53·9 |
|  | (*l*) 24 Hydræ ············· | 59·9 | 60·3 | +0·3 | 98 9 0·4 | − 0·3 | ······ | ······ | ······ | + 1 59·2 | ············ | − 8 5 32·3 |
|  | μ Leonis ··············· | 9·4 | 11·3 | +0·1 | 63 20 10·5 | ······ | 35·0 | 29·18 | 37·0 | + 0 32·7 | ············ | +26 44 43·8 |
|  | A.S.C. 1215··········· | 14·2 | 17·0 | +0·3 | 96 36 15·9 | ······ | ······ | ······ | ······ | + 1 51·8 | ············ | − 6 32 40·7 |
|  | λ Ursæ Majoris ······ | 16·7 | 18·8 | +0·1 | 46 23 17·8 | ······ | ······ | ······ | ······ | + 0 12·7 | ············ | +43 41 56·5 |
|  | γ Leonis ··············· | 38·1 | 39·0 | +0·1 | 69 26 38·7 | ······ | ······ | ······ | ······ | + 0 41·4 | ············ | +20 38 6·9 |
|  | 31 Leonis Minoris ··· | 22·2 | 23·9 | +0·1 | 52 34 23·1 | ······ | ······ | ······ | ······ | + 0 19·5 | ············ | +37 30 44·4 |
|  | 36 Ursæ Majoris ···· | 12·8 | 14·8 | −0·1 | 33 18 13·7 | ······ | ······ | ······ | ······ | − 0 0·9 | ············ | +56 47 14·2 |
|  | A.S.C. 1266 ·········· | 41·9 | 44·4 | −0·3 | 20 11 42·9 | ······ | ······ | ······ | ······ | − 0 14·5 | ············ | +69 53 58·6 |
|  | 41 Leonis Minoris ··· | 11·7 | 13·7 | +0·1 | 66 4 12·8 | ······ | 34·9 | 29·19 | 36·7 | + 0 36·5 | ············ | +24 0 37·7 |
|  | 41 Sextantis ·········· | 26·7 | 28·1 | +0·3 | 98 7 27·7 | ······ | ······ | ······ | ······ | + 1 59·3 | ············ | − 8 4 0·0 |
|  | 6 Hydræ et Crateris·· | 29·5 | 29·1 | +0·5 | 109 19 29·8 | ······ | ······ | ······ | ······ | + 3 37·7 | ············ | −19 17 40·5 |
|  | 50 Leonis Minoris··· | 32·0 | 32·7 | +0·1 | 63 44 32·4 | ······ | ······ | ······ | ······ | + 0 33·3 | ············ | +26 20 21·3 |
|  | 60 Leonis·············· | 23·8 | 25·2 | +0·1 | 69 3 24·6 | ······ | ······ | ······ | ······ | + 0 40·9 | ············ | +21 1 21·5 |
|  | δ Leonis ··············· | 41·3 | 43·2 | +0·1 | 68 41 42·4 | ······ | ······ | ······ | ······ | + 0 40·3 | ············ | +21 23 4·3 |
|  | (*k*) 72 Leonis·············· | 41·8 | 43·2 | +0·1 | 66 7 42·6 | + 0·1 | ······ | ······ | ······ | + 0 36·6 | ············ | +23 57 7·7 |
|  | ν Ursæ Majoris········ | 54·8 | 55·9 | +0·1 | 56 7 55·4 | ······ | ······ | ······ | ······ | + 0 23·7 | ············ | +33 57 7·9 |
|  | λ Hydræ et Crateris·· | 8·0 | 8·0 | +0·4 | 107 57 8·4 | ······ | ······ | ······ | ······ | + 3 19·2 | ············ | −17 55 0·6 |
|  | 81 Leonis ············ | 24·7 | 26·0 | +0·1 | 72 45 25·5 | ······ | ······ | ······ | ······ | + 0 46·8 | ············ | +17 19 14·7 |
|  | Groombridge 1782··· | 15·0 | 18·5 | −0·5 | 8 6 16·3 | ······ | ······ | ······ | ······ | − 0 28·6 | ············ | +81 59 39·3 |
|  | 90 Leonis (North) ··· | 44·3 | 45·2 | +0·1 | 72 24 44·8 | ······ | ······ | ······ | ······ | + 0 46·3 | ············ | +17 39 55·9 |
|  | (*k*) θ Hydræ et Crateris·· | 21·6 | 22·2 | +0·4 | 98 59 22·3 | 0·0 | ······ | ······ | ······ | + 2 4·3 | ············ | − 8 55 59·6 |
|  | γ Cephei S.P.········ | 35·2 | 38·0 | −0·5 | 346 51 36·1 | ······ | 33·6 | 29·20 | 35·4 | − 1 3·5 | ············ | +76 45 5·6 |
|  | ζ Hydræ et Crateris·· | 48·6 | 49·0 | +0·4 | 107 30 49·2 | ······ | ······ | ······ | ······ | + 3 14·2 | ············ | −17 28 36·4 |
|  | 93 Leonis·············· | 11·8 | 13·0 | +0·1 | 68 59 12·5 | ······ | ······ | ······ | ······ | + 0 40·9 | ············ | +21 5 33·6 |
|  | (*m*) β Leonis ··············· | 32·6 | 34·2 | +0·1 | 74 37 33·5 | 0·0 | ······ | ······ | ······ | + 0 50·1 | ············ | +15 27 3·4 |
|  | η Hydræ et Crateris·· | 58·9 | 59·1 | +0·4 | 106 18 59·4 | ······ | ······ | ······ | ······ | + 3 0·6 | ············ | −16 16 33·0 |
|  | 31 Hydræ et Crateris | 58·0 | 57·2 | +0·5 | 108 48 58·1 | ······ | ······ | ······ | ······ | + 3 31·0 | ············ | −18 47 2·1 |
|  | (*n*) Nadir ··············· | 59·0<br>64·0 | 63·0<br>67·3 | −0·1 | 214 8 3·2 | ······ | ······ | ······ | ····· | ········· | ············ | ·············· |
|  | ······················ | 4·8<br>0·0 | 9·0<br>3·8 | −0·1 | 214 8 4·3 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
|  | (*o*) Moon South Limb··· | 31·2 | ······ | +0·4 | 100 29 31·9 | +10·2 | ······ | ······ | ······ | + 2 13·3 | ············ | −10 26 28·4 |
|  | (*p*) ························ | ······ | 43·4 | +0·4 | 100 29 43·4 | − 0·5 | ······ | ······ | ······ | + 2 13·3 | ············ | −10 26 29·2 |
|  | (*q*) ························ | 50·5 | 51·2 | +0·4 | 100 29 51·2 | −10·9 | ······ | ······ | ······ | + 2 13·3 | ············ | −10 26 26·6 |
|  | (*r*) α Ursæ Minoris S.P. | 43·8 | 47·8 | −0·6 | 358 34 45·2 | −22·1 | 34·0 | 29·21 | 36·0 | − 0 41·7 | ············ | +88 28 14·4 |
| Mar. 28 | Sun South Limb ···· | 19·2 | 22·8 | +0·2 | 87 23 21·2 | ······ | 52·8 | 29·06 | 50·9 | + 1 15·0 | 3·6 | + 2 40 50·6 |
|  | (*k*) Mars Centre ·········· | 49·1 | 54·3 | +0·1 | 78 4 51·8 | + 0·1 | 53·5 | 29·06 | 51·8 | + 0 54·0 | ············ | +11 59 40·9 |
|  | λ Ursæ Majoris ······ | 16·1 | 19·0 | +0·1 | 46 23 17·6 | ······ | ······ | ······ | ······ | + 0 12·2 | ············ | +43 41 57·0 |
|  | γ Leonis ··············· | 36·5 | 39·8 | +0·1 | 69 26 38·3 | ······ | 45·1 | 29·07 | 46·8 | + 0 40·4 | ············ | +20 38 8·1 |
|  | 36 Ursæ Majoris····· | 10·8 | 14·8 | −0·1 | 33 18 12·7 | ······ | ······ | ······ | ······ | − 0 0·8 | ············ | +56 47 14·9 |

(*a*) At 10ʰ 44ᵐ 31ˢ.
(*b*) At 10ʰ 45ᵐ.
(*c*) At 10ʰ 45ᵐ 31ˢ.
(*d*) 1ᵐ after transit.
(*e*) 54ˢ after transit.

(*f*) At 1ʰ 19ᵐ 5ˢ.
(*g*) At 0ʰ 41ᵐ 50ˢ.
(*h*) At 1ʰ 0ᵐ 45ˢ.
(*i*) At 1ʰ 52ᵐ 20ˢ.

(*k*) Wire IV.
(*l*) At 9ʰ 9ᵐ 25ˢ.
(*m*) Wire III.
(*n*) At 12ʰ 25ᵐ.

(*o*) At 12ʰ 35ᵐ 37ˢ.
(*p*) At 12ʰ 36ᵐ 18ˢ.
(*q*) At 12ʰ 36ᵐ 57ˢ.
(*r*) At 12ʰ 41ᵐ.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ ″ | " | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Mar. 28 | (*a*) 40 Sextantis.......... | 28·5 | 30·4 | +0·3 | 93 15 29·8 | 0·0 | ...... | ...... | ...... | + 1 35·1 | 304 8 3·6 | − 3 11 38·1 |
| | (*a*) ω Ursæ Majoris....... | 32·4 | 35·8 | +0·1 | 46 3 34·2 | + 0·7 | ...... | ...... | ...... | + 0 12·1 | ............ | +44 1 39·8 |
| | β Ursæ Majoris ...... | 51·8 | 56·2 | −0·1 | 32 51 53·9 | ...... | ...... | ...... | ...... | − 0 1·3 | ............ | +57 13 34·2 |
| | δ Leonis ............... | 40·9 | 43·9 | +0·1 | 68 41 42·5 | ...... | ...... | ...... | ...... | + 0 39·4 | ............ | +21 23 4·9 |
| | (*b*) 72 Leonis .............. | 40·9 | 43·7 | +0·1 | 66 7 42·4 | + 0·1 | ...... | ...... | ...... | + 0 35·8 | ............ | +23 57 8·5 |
| | ν Ursæ Majoris ....... | 54·6 | 56·4 | +0·1 | 56 7 55·6 | ...... | ...... | ...... | ...... | + 0 23·2 | ............ | +33 57 8·0 |
| | ε Hydræ et Crateris.. | 9·2 | 11·7 | +0·4 | 100 3 10·8 | ...... | ...... | ...... | ...... | + 2 7·3 | ............ | − 9 59 51·3 |
| | Groombridge 1782... | 11·1 | 16·2 | −0·5 | 8 6 14·2 | ...... | ...... | ...... | ...... | − 0 28·1 | ............ | +81 59 40·7 |
| | 90 Leonis (North)... | 43·0 | 45·0 | +0·1 | 72 24 44·1 | ...... | ...... | ...... | ...... | + 0 45·4 | ............ | +17 39 57·3 |
| | θ Hydræ et Crateris.. | 23·6 | 24·9 | +0·4 | 98 59 24·6 | ...... | ...... | ...... | ...... | + 2 1·9 | ............ | − 8 55 59·7 |
| | γ Cephei S.P.......... | 31·9 | 37·0 | −0·5 | 346 51 34·0 | ...... | 42·6 | 29·15 | 44·5 | − 1 2·2 | ............ | +76 45 5·0 |
| | Mercury Centre ...... | 7·9 | 8·7 | +0·4 | 98 57 8·7 | ...... | 45·1 | 29·34 | 44·5 | + 2 1·8 | ............ | − 8 53 43·7 |
| | (*c*) Nadir............... | 59·1<br>64·8 | 63·4<br>68·9 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 63·5<br>58·2 | 68·1<br>63·2 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | .... .......... |
| Mar. 29 | α Ursæ Minoris ...... | 46·0 | 50·2 | −0·5 | 1 37 47·6 | ...... | 44·7 | 29·39 | 45·6 | − 0 36·8 | ............ | +88 28 16·0 |
| | Mars Centre........... | 1·4 | 4·6 | +0·1 | 77 49 3·1 | ...... | 47·2 | 29·38 | 46·0 | + 0 54·8 | ............ | +12 15 28·9 |
| | α Aurigæ............... | 13·0 | 17·3 | 0·0 | 44 15 15·2 | ...... | 45·7 | 29·40 | 45·8 | + 0 10·3 | ............ | +45 50 1·3 |
| | 38 Lyncis ............. | 7·0 | 10·3 | +0·1 | 52 37 8·8 | ...... | 43·7 | 29·44 | 44·4 | + 0 19·4 | ............ | +37 27 58·6 |
| | μ Leonis ............... | 8·8 | 10·5 | +0·1 | 63 20 9·8 | ...... | ...... | ...... | ...... | + 0 32·4 | ............ | +26 44 44·6 |
| Mar. 30 | (*d*) α Ursæ Minoris ...... | 45·1 | 50·0 | −0·5 | 1 37 47·0 | + 0·1 | 49·6 | 29·18 | 48·2 | − 0 36·1 | 3·7 | +88 28 15·9 |
| | (*b*) μ Leonis ............... | 9·0 | 11·1 | +0·1 | 63 20 10·2 | + 0·1 | 43·1 | 29·28 | 43·8 | + 0 32·2 | ............ | +26 44 44·4 |
| | (*b*) λ Ursæ Majoris ...... | 15·2 | 18·7 | +0·1 | 46 23 17·0 | + 0·2 | ...... | ...... | ...... | + 0 12·5 | ............ | +43 41 57·2 |
| | γ Leonis................ | 37·2 | 39·3 | +0·1 | 69 26 38·4 | ...... | ...... | ...... | ...... | + 0 40·9 | ............ | +20 38 7·6 |
| | 36 Ursæ Majoris...... | 11·2 | 14·2 | −0·1 | 33 18 12·6 | ...... | ...... | ...... | ...... | − 0 0·8 | ............ | +56 47 15·1 |
| | ξ Ursæ Majoris pre. . | 10·6 | 12·5 | +0·1 | 57 40 11·7 | ...... | 43·1 | 29·29 | 43·8 | + 0 25·1 | ............ | +32 24 50·1 |
| | 81 Leonis ............. | 25·6 | 27·7 | +0·1 | 72 45 26·8 | ...... | ...... | ...... | ...... | + 0 46·1 | ............ | +17 19 14·0 |
| | (*e*) Groombridge 1782... | 10·5 | 15·6 | −0·5 | 8 6 12·6 | + 0·1 | ...... | ...... | ...... | − 0 28·2 | ............ | +81 59 42·4 |
| | 90 Leonis (North) ... | 44·5 | 45·9 | +0·1 | 72 24 45·3 | ...... | ...... | ...... | ...... | + 0 45·5 | ............ | +17 39 56·1 |
| | (*f*) γ Cephei S.P. ......... | 32·3 | 36·2 | −0·5 | 346 51 33·8 | ...... | 43·0 | 29·28 | 43·8 | − 1 2·4 | ............ | +76 45 4·5 |
| Mar. 31 | Sun North Limb..... | 27·0 | 28·2 | +0·2 | 85 41 27·8 | ...... | 45·5 | 28·87 | 45·7 | + 1 11·2 | 3·8 | + 4 22 48·0 |
| | α Ursæ Minoris ...... | 44·6 | 49·2 | −0·5 | 1 37 46·4 | ...... | ...... | ...... | ...... | − 0 36·1 | ............ | +88 28 16·7 |
| | (*b*) Venus Centre......... | 41·3 | 43·8 | +0·2 | 84 25 42·8 | + 0·3 | ...... | ...... | ...... | + 1 8·1 | ............ | + 5 38 35·8 |
| | (*g*) Nadir ............... | 0·1<br>4·5 | 3·6<br>8·3 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 64·1<br>59·4 | 68·0<br>63·2 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | β Ursæ Majoris ...... | 51·5 | 55·2 | −0·1 | 32 51 53·3 | ...... | 40·6 | 28·91 | 41·6 | − 0 1·3 | ............ | +57 13 35·0 |
| | (*a*) δ Leonis ............... | 41·0 | 44·2 | +0·1 | 68 41 42·7 | + 0·3 | ...... | ...... | ...... | + 0 39·4 | ............ | +21 23 4·6 |
| | ν Ursæ Majoris........ | 53·9 | 56·1 | +0·1 | 56 7 55·1 | ...... | ...... | ...... | ...... | + 0 23·1 | ............ | +33 57 8·8 |
| Apr. 1 | Sun South Limb..... | 17·0 | 19·5 | +0·2 | 85 50 18·4 | ...... | 42·8 | 28·95 | 42·7 | + 1 12·2 | ............ | + 4 13 56·4 |
| | α Ursæ Minoris....... | 46·2 | 50·8 | −0·5 | 1 37 48·1 | ...... | ...... | ...... | ...... | − 0 36·4 | ............ | +88 28 15·3 |
| | Venus Centre......... | 52·4 | 54·0 | +0·2 | 83 55 53·4 | ...... | ...... | ...... | ...... | + 1 5·1 | ............ | + 6 8 28·5 |
| Apr. 2 | Mars Centre.......... | 7·0 | 11·0 | +0·1 | 76 47 9·0 | ...... | 36·2 | 29·54 | 41·5 | + 0 54·4 | 3·8 | +13 17 23·6 |
| | (*b*) ε Aurigæ............... | 4·0 | 7·6 | +0·1 | 46 30 5·9 | + 0·2 | 39·8 | 29·57 | 42·3 | + 0 12·9 | ............ | +43 35 8·0 |
| | (*a*) η Orionis............... | 44·6 | 46·0 | +0·3 | 92 36 45·6 | 0·0 | ...... | ...... | ...... | + 1 35·4 | ............ | − 2 32 54·0 |
| | λ Orionis.............. | 0·2 | 3·8 | +0·1 | 80 15 2·1 | ...... | ...... | ...... | ...... | + 1 1·0 | ............ | + 9 49 23·9 |
| | (*a*) ι Orionis ............... | 43·9 | 47·0 | +0·3 | 96 4 45·8 | − 0·1 | ...... | ...... | ...... | + 1 49·6 | ............ | − 6 1 8·3 |
| | (*h*) Nadir ............... | 59·5<br>64·4 | 62·6<br>67·4 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |

(*a*) Wire V.
(*b*) Wire IV.

(*c*) At $23^h\ 5^m$.
(*d*) At $1^h\ 2^m\ 34^s$.

(*e*) At $11^h\ 20^m\ 40^s$
(*f*) Wire II. at $11^h\ 31^m\ 12^s$.

(*g*) At $9^h\ 5^m$.
(*h*) At $9^h\ 30^m$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Apr. 2 | Nadir................ | 65·2<br>59·8 | 69·0<br>63·0 | −0·1 | 214 8 4·1 | ...... | ...... | ...... | ...... | ......... | 304 8 3·8 | ............ |
| | μ Leonis................. | 7·9 | 9·8 | +0·1 | 63 20 8·9 | ...... | 35·7 | 29·63 | 38·6 | + 0 33·1 | ............ | +26 44 45·0 |
| | λ Ursæ Majoris ...... | 15·3 | 18·0 | +0·1 | 46 23 16·8 | ...... | ...... | ...... | ...... | + 0 12·9 | ............ | +43 41 57·3 |
| | 40 Sextantis........... | 26·7 | 28·0 | +0·3 | 93 15 27·6 | ...... | 35·2 | 29·61 | 37·0 | + 1 38·9 | ............ | − 3 11 39·5 |
| | (a) 6 Hydræ et Crateris | 24·3 | 23·2 | +0·5 | 109 19 24·3 | 0·0 | ...... | ...... | ...... | + 3 40·6 | ............ | −19 17 37·9 |
| | δ Leonis................ | 38·1 | 41·0 | +0·1 | 68 41 39·6 | ...... | ...... | ...... | ...... | + 0 40·8 | ............ | +21 23 6·6 |
| | (b) 72 Leonis.............. | 39·4 | 41·5 | +0·1 | 66 7 40·6 | + 0·1 | ...... | ...... | ...... | + 0 37·1 | ............ | +23 57 9·2 |
| | (a) 55 Ursæ Majoris ..... | 12·5 | 16·0 | +0·1 | 51 2 14·3 | 0·0 | ...... | ...... | ...... | + 0 18·0 | ............ | +39 2 54·7 |
| | λ Hydræ et Crateris | 6·6 | 7·0 | +0·4 | 107 57 7·1 | ...... | ...... | ...... | ...... | + 3 21·6 | ............ | −17 55 1·7 |
| | ϰ Hydræ et Crateris | 42·2 | 43·8 | +0·4 | 101 32 43·5 | ...... | ...... | ...... | ...... | + 2 21·7 | ............ | −11 29 38·2 |
| | λ Draconis............. | 38·5 | 39·8 | −0·3 | 19 53 38·9 | ...... | ...... | ...... | ...... | − 0 15·0 | ............ | +70 12 3·1 |
| | A.S.C. 1359 ........... | 54·1 | 55·7 | +0·1 | 61 25 55·0 | ...... | ...... | ...... | ...... | + 0 30·6 | ...... ..... | +28 39 1·4 |
| | 24 Hydræ et Crateris | 12·2 | 11·8 | +0·4 | 102 23 12·4 | ...... | ...... | ...... | ...... | + 2 27·7 | ............ | −12 20 13·1 |
| | γ Cephei S.P......... | 33·7 | 37·3 | −0·5 | 346 51 35·0 | ...... | ...... | ...... | ...... | − 1 4·2 | ............ | +76 45 3·8 |
| | (b) ζ Hydræ et Crateris | 48·0 | 48·0 | +0·4 | 107 30 48·4 | − 0·1 | ...... | ...... | ...... | + 3 16·3 | ............ | −17 28 37·6 |
| | 93 Leonis .............. | 10·5 | 13·2 | +0·1 | 68 59 12·0 | ...... | ...... | ...... | ...... | + 0 41·3 | ............ | +21 5 33·7 |
| | (b) β Leonis................. | 31·0 | 33·1 | +0·1 | 74 37 32·2 | + 0·1 | 34·8 | 29·60 | 36·8 | + 0 50·7 | ............ | +15 27 4·0 |
| Apr. 4 | Sun North Limb..... | 17·2 | 17·5 | +0·2 | 84 9 17·6 | ...... | 43·9 | 29·99 | 42·4 | + 1 10·3 | 3·7 | + 5 54 59·0 |
| | (a) α Ursæ Minoris ...... | 48·5 | 52·9 | −0·5 | 1 37 50·3 | 0·0 | ...... | ...... | ...... | − 0 37·6 | ............ | +88 28 14·2 |
| | Venus Centre......... | 13·0 | 14·3 | +0·1 | 82 27 13·7 | ...... | ...... | ...... | ...... | + 1 6·2 | ............ | + 7 37 7·0 |
| | 40 Sextantis........... | 27·9 | 29·9 | +0·3 | 93 15 29·2 | ...... | ...... | ...... | ...... | + 1 39·0 | ............ | − 3 11 41·3 |
| | ω Ursæ Majoris....... | 33·3 | 36·1 | +0·1 | 46 3 34·8 | ...... | 40·6 | 29·98 | 41·7 | + 0 12·6 | ............ | +44 1 39·5 |
| | θ Leonis ................ | 18·2 | 22·0 | +0·1 | 73 47 20·1 | ...... | ...... | ...... | ...... | + 0 49·2 | ............ | +16 17 17·6 |
| | ξ Ursæ Majoris pre. | 8·5 | 10·6 | +0·1 | 57 40 9·6 | ...... | ...... | ...... | ...... | + 0 25·9 | ............ | +32 24 51·4 |
| | λ Hydræ et Crateris | 5·7 | 6·0 | +0·4 | 107 57 6·2 | ...... | ...... | ...... | ...... | + 3 21·9 | ............ | −17 55 1·2 |
| | (b) ϰ Hydræ et Crateris.. | 42·6 | 43·1 | +0·4 | 101 32 43·3 | 0·0 | ...... | ...... | ...... | + 2 21·9 | ............ | −11 29 38·3 |
| | (a) λ Draconis ............ | 35·8 | 38·2 | −0·3 | 19 53 36·7 | 0·0 | ...... | ...... | ...... | − 0 15·1 | ............ | +70 12 5·3 |
| | A.S.C. 1359 ........... | 52·3 | 54·5 | +0·1 | 61 25 53·5 | ...... | ...... | ...... | ...... | + 0 30·7 | ............ | +28 39 2·7 |
| | 24 Hydræ et Crateris | 14·0 | 13·2 | +0·4 | 102 23 14·0 | ...... | ...... | ...... | ...... | + 2 27·8 | ............ | −12 20 14·9 |
| | γ Cephei S.P. ......... | 31·6 | 35·5 | −0·5 | 346 51 33·0 | ...... | ...... | ...... | ...... | − 1 4·2 | ............ | +76 45 1·9 |
| | (b) ζ Hydræ et Crateris.. | 48·6 | 48·7 | +0·4 | 107 30 49·0 | − 0·1 | ...... | ...... | ...... | + 3 16·6 | ............ | −17 28 38·6 |
| | 93 Leonis .............. | 10·8 | 13·4 | +0·1 | 68 59 12·2 | ...... | ...... | ...... | ...... | + 0 41·4 | ............ | +21 5 33·3 |
| | (b) β Leonis................ | 32·0 | 34·7 | +0·1 | 74 37 33·5 | + 0·1 | 40·0 | 29·96 | 41·4 | + 0 50·7 | ............ | +15 27 2·6 |
| | (a) η Hydræ et Crateris.. | 58·2 | 58·7 | +0·4 | 106 18 58·9 | 0·0 | ...... | ...... | ...... | + 3 2·8 | ............ | −16 16 34·8 |
| | 31 Hydræ et Crateris | 56·2 | 57·0 | +0·5 | 108 48 57·1 | ...... | ...... | ...... | ...... | + 3 35·6 | ............ | −18 47 5·8 |
| | (c) Nadir ............... | 59·0<br>64·2 | 63·3<br>68·4 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ...................... | 63·7<br>59·2 | 68·7<br>64·0 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | (d) α Ursæ Minoris ...... | 20·1 | 25·0 | −0·5 | 1 37 22·0 | +28·7 | 48·0 | 29·96 | 46·8 | − 0 37·2 | ............ | +88 28 13·4 |
| Apr. 5 | Sun South Limb ..... | 25·0 | 27·2 | +0·2 | 84 18 26·3 | ...... | ...... | ...... | ...... | + 1 9·9 | ............ | + 5 45 50·7 |
| | α Ursæ Minoris....... | 48·2 | 53·0 | −0·5 | 1 37 50·2 | ...... | ...... | ...... | ...... | − 0 37·2 | ............ | +88 28 13·9 |
| | (e) ............................ | 21·8 | 26·5 | −0·5 | 1 37 23·6 | +27·1 | ...... | ...... | ...... | − 0 37·2 | ............ | +88 28 13·4 |
| | Venus Centre ......... | 59·1 | 62·1 | +0·1 | 81 58 0·7 | ...... | 48·5 | 29·96 | 47·8 | + 1 4·4 | ............ | + 8 6 21·8 |
| | (b) Mars Centre........... | 3·3 | 8·0 | +0·1 | 76 2 5·7 | + 0·2 | 49·2 | 29·95 | 48·5 | + 0 52·3 | ............ | +14 2 28·7 |
| Apr. 6 | Sun North Limb..... | 46·3 | 48·5 | +0·2 | 83 23 47·6 | ...... | ...... | ...... | ...... | + 1 7·7 | 3·4 | + 6 40 31·3 |
| | (f) α Ursæ Minoris ...... | 49·2 | 54·1 | −0·5 | 1 37 51·2 | 0·0 | ...... | ...... | ...... | − 0 37·2 | ............ | +88 28 12·6 |
| | Venus Centre ......... | 55·6 | 59·8 | +0·1 | 81 28 57·8 | ...... | ...... | ...... | ...... | + 1 3·3 | ............ | + 8 35 25·5 |
| | (g) Mars Centre........... | 18·5 | 22·0 | +0·1 | 75 47 20·3 | + 0·4 | 47·0 | 29·85 | 46·4 | + 0 51·9 | ............ | +14 17 14·0 |
| | (b) ϰ Orionis ............... | 12·5 | 15·0 | +0·4 | 99 47 14·1 | 0·0 | 44·8 | 29·81 | 46·4 | + 2 8·6 | ............ | − 9 43 56·1 |
| Apr. 7 | (g) Mercury Centre ...... | 54·5 | 57·8 | +0·3 | 95 28 56·5 | + 0·5 | 41·6 | 29·90 | 44·4 | + 1 47·8 | 3·0 | − 5 25 18·6 |

(a) Wire III.
(b) Wire IV.
(c) At $23^h$ $55^m$.

(d) Wire I. at $0^h$ $38^m$ $20^s$.
(e) At $1^h$ $24^m$ $22^s$.

(f) At $1^h$ $1^m$ $52^s$.
(g) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Apr. 7 | (a) α Ursæ Minoris....... | 21·2 | 25·1 | −0·5 | 1 37 22·4 | +28·3 | 42·1 | 29·90 | 44·4 | − 0 37·6 | 304 8 3·0 | +88 28 13·1 |
|  | ........................ | 49·8 | 53·8 | −0·5 | 1 37 51·5 | ...... | ...... | ...... | ...... | − 0 37·6 | ............ | +88 28 12·3 |
| Apr. 8 | Sun South Limb ..... | 37·4 | 38·5 | +0·2 | 83 10 38·1 | ...... | ...... | ...... | ...... | + 1 7·9 | ............ | + 6 53 40·2 |
|  | (b) α Ursæ Minoris....... | 23·9 | 28·5 | −0·5 | 1 37 25·5 | +25·9 | ...... | ...... | ...... | − 0 37·6 | ............ | +88 28 12·4 |
|  | Venus Centre ......... | 26·4 | 30·0 | +0·1 | 80 31 28·2 | ...... | 43·0 | 29·90 | 44·4 | + 1 1·8 | ............ | + 9 32 56·2 |
|  | Mars Centre .......... | 16·9 | 20·5 | +0·1 | 75 18 19·0 | ...... | 43·6 | 29·90 | 44·6 | + 0 51·4 | ............ | +14 46 15·8 |
|  | (c) Nadir.................. | 58·7<br>63·5 | 62·5<br>67·0 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ........................ | 63·8<br>58·8 | 68·0<br>62·9 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | λ Ursæ Majoris....... | 15·6 | 19·0 | +0·1 | 46 23 17·6 | ...... | 41·1 | 29·96 | 43·9 | + 0 12·9 | ............ | +43 41 55·7 |
|  | (d) 44 Leonis Minoris ... | 41·2 | 44·0 | +0·1 | 61 16 42·5 | + 0·9 | ...... | ...... | ...... | + 0 30·4 | ............ | +28 48 12·4 |
|  | ω Ursæ Majoris....... | 32·6 | 36·0 | +0·1 | 46 3 34·5 | ...... | ...... | ...... | ...... | + 0 12·5 | ............ | +44 1 39·2 |
|  | θ Leonis................ | 15·9 | 20·0 | +0·1 | 73 47 17·8 | ...... | 41·7 | 29·96 | 43·5 | + 0 49·1 | ............ | +16 17 19·3 |
|  | 55 Ursæ Majoris ..... | 11·4 | 15·0 | +0·1 | 51 2 13·1 | ...... | ...... | ...... | ...... | + 0 18·0 | ............ | +39 2 55·1 |
|  | 81 Leonis .............. | 23·3 | 26·9 | +0·1 | 72 45 25·2 | ...... | ...... | ...... | ...... | + 0 47·3 | ............ | +17 19 13·7 |
|  | λ Draconis ............. | 34·2 | 37·8 | −0·3 | 19 53 35·6 | ...... | ...... | ...... | ...... | − 0 15·0 | ............ | +70 12 5·6 |
|  | χ Ursæ Majoris ...... | 7·2 | 11·0 | 0·0 | 41 26 9·0 | ...... | ...... | ...... | ...... | + 0 7·6 | ............ | +48 39 9·6 |
|  | β Leonis................ | 31·0 | 33·2 | +0·1 | 74 37 32·4 | ...... | ...... | ...... | ...... | + 0 50·6 | ............ | +15 27 3·2 |
|  | δ Ursæ Majoris....... | 59·1 | 62·9 | −0·1 | 32 11 0·8 | ...... | 41·0 | 29·98 | 43·3 | − 0 2·0 | ............ | +57 54 27·4 |
|  | (e) Mercury Centre ...... | 8·0 | 10·0 | +0·3 | 95 0 9·3 | 0·0 | 42·8 | 30·06 | 44·6 | + 1 46·0 | 4·2 | − 4 56 27·9 |
|  | (f) α Ursæ Minoris....... | 2·4 | 7·2 | −0·5 | 1 37 4·1 | +47·3 | 44·2 | 30·05 | 44·6 | − 0 37·6 | ............ | +88 28 13·6 |
|  | ........................ | 51·0 | 56·1 | −0·5 | 1 37 53·3 | ...... | ...... | ...... | ...... | − 0 37·6 | ............ | +88 28 11·7 |
| Apr. 9 | Sun North Limb..... | 19·2 | 20·9 | +0·1 | 82 16 20·0 | ...... | ...... | ...... | ...... | + 1 5·8 | ............ | + 7 48 1·6 |
|  | (g) α Ursæ Minoris....... | 2·8 | 8·8 | −0·5 | 1 37 5·1 | +47·4 | 45·0 | 30·05 | 45·2 | − 0 37·6 | ............ | +88 28 12·5 |
|  | Venus Centre......... | 1·0 | 4·0 | +0·1 | 80 3 2·8 | ...... | 45·0 | ...... | ...... | + 1 0·8 | ............ | +10 1 23·8 |
|  | 86 Leonis .............. | 7·1 | 9·9 | +0·1 | 70 48 8·8 | ...... | 38·9 | 30·05 | 44·5 | + 0 44·4 | ............ | +19 16 34·2 |
|  | A.S.C. 1359 ........... | 50·6 | 53·7 | +0·1 | 61 25 52·2 | ...... | ...... | ...... | ...... | + 0 30·8 | ............ | +28 39 4·4 |
|  | 24 Hydræ et Crateris | 12·4 | 13·5 | +0·4 | 102 23 13·5 | ...... | ...... | ...... | ...... | + 2 28·6 | ............ | −12 20 14·7 |
|  | 92 Leonis .............. | 10·5 | 14·2 | +0·1 | 67 51 12·3 | ...... | ...... | ...... | ...... | + 0 39·9 | ............ | +22 13 35·2 |
|  | χ Ursæ Majoris ...... | 7·2 | 11·0 | 0·0 | 41 26 9·0 | ...... | ...... | ...... | ...... | + 0 7·6 | ............ | +48 39 10·8 |
|  | β Leonis................ | 29·5 | 33·3 | +0·1 | 74 37 31·3 | ...... | ...... | ...... | ...... | + 0 51·0 | ............ | +15 27 5·1 |
|  | η Hydræ et Crateris.. | 57·4 | 59·0 | +0·4 | 106 18 58·7 | ...... | ...... | ...... | ...... | + 3 3·7 | ............ | −16 16 35·0 |
|  | 31 Hydræ et Crateris | 57·0 | 57·1 | +0·5 | 108 48 57·6 | ...... | ...... | ...... | ...... | + 3 34·7 | ............ | −18 47 4·9 |
|  | 2 Comæ Berenices fol. | 38·8 | 42·0 | +0·1 | 67 44 40·5 | ...... | ...... | ...... | ...... | + 0 39·7 | ............ | +22 20 7·2 |
|  | Groombridge 1858... | 38·5 | 43·2 | −0·5 | 7 30 40·3 | ...... | ...... | ...... | ...... | − 0 29·9 | ............ | +82 35 17·0 |
|  | Groombridge 29 S.P. | 53·8 | 58·7 | −0·5 | 346 10 55·7 | ...... | ...... | ...... | ...... | − 1 6·1 | ............ | +76 4 22·2 |
|  | 8 Comæ Berenices ... | 15·9 | 19·0 | +0·1 | 66 10 17·5 | ...... | ...... | ...... | ...... | + 0 37·3 | ............ | +23 54 32·6 |
|  | 12 Comæ Berenices .. | 44·1 | 45·6 | +0·1 | 63 21 44·8 | ...... | ...... | ...... | ...... | + 0 33·4 | ............ | +26 43 9·2 |
|  | 14 Comæ Berenices.. | 29·7 | 32·5 | +0·1 | 61 56 31·1 | ...... | ...... | ...... | ...... | + 0 31·5 | ............ | +28 8 24·8 |
|  | 17 Comæ Berenices.. | 51·6 | 52·9 | +0·1 | 63 17 52·5 | ...... | ...... | ...... | ...... | + 0 33·3 | ............ | +26 47 1·6 |
|  | (h) 21 Comæ Berenices .. | 37·4 | 39·0 | +0·1 | 64 38 38·4 | + 0·1 | ...... | ...... | ...... | + 0 35·1 | ............ | +25 26 13·8 |
|  | 22 Comæ Berenices.. | 45·0 | 47·8 | +0·1 | 64 55 46·4 | ...... | ...... | ...... | ...... | + 0 35·5 | ............ | +25 9 5·5 |
|  | 25 Comæ Berenices.. | 15·0 | 17·0 | +0·1 | 72 7 15·9 | ...... | ...... | ...... | ...... | + 0 46·5 | ............ | +17 57 25·0 |
|  | (i) α Ursæ Minoris S.P. | 4·9 | 9·3 | −0·6 | 358 35 6·5 | −47·4 | 40·0 | 30·04 | 43·4 | − 0 42·6 | ............ | +88 28 9·1 |
| Apr. 10 | (k) Nadir.................. | 59·8<br>64·2 | 63·3<br>67·8 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ........................ | 5·3<br>0·8 | 9·1<br>3·9 | −0·1 | 214 8 4·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | Mercury Centre....... | 37·6 | 39·0 | +0·3 | 93 58 38·6 | ...... | 47·0 | 29·99 | 47·0 | + 1 40·6 | 3·6 | − 3 54 52·4 |

(a) Wire I. at $0^h\,38^m\,35^s$.
(b) Wire V. at $1^h\,23^m\,58^s$.
(c) At $9^h\,50^m$.
(d) $1^m$ after transit.
(e) Wire IV.
(f) At $0^h\,31^m\,50^s$.
(g) At $1^h\,31^m\,50^s$.
(h) Wire IV.
(i) At $12^h\,31^m\,50^s$.
(k) At $3^h\,40^m$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Apr. 10 | (*a*) α Ursæ Minoris | 3·4 | 8·0 | −0·5 | 1 37 5·0 | +47·3 | ...... | ...... | ...... | − 0 37·3 | 304 8 3·6 | +88 28 11·8 |
| | ...... | 51·0 | 55·8 | −0·5 | 1 37 53·1 | ...... | ...... | ...... | ...... | − 0 37·3 | ...... | +88 28 11·0 |
| Apr. 11 | Sun South Limb | 53·5 | 56·0 | +0·1 | 82 3 54·9 | ...... | 49·2 | 30·01 | 48·2 | + 1 4·6 | ...... | + 8 0 27·3 |
| | (*b*) α Ursæ Minoris | 3·5 | 8·0 | −0·5 | 1 37 5·1 | +47·4 | ...... | ...... | ...... | − 0 37·2 | ...... | +88 28 11·5 |
| | Venus Centre | 56·6 | 58·9 | +0·1 | 79 6 57·7 | ...... | 47·8 | ...... | ...... | + 0 58·5 | ...... | +10 57 30·6 |
| | Mars Centre | 48·2 | 51·5 | +0·1 | 74 35 49·9 | ...... | 49·1 | 30·02 | 48·0 | + 0 49·8 | ...... | +15 28 47·1 |
| | (*c*) Nadir | 59·8<br>64·5 | 62·9<br>67·1 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | ...... | 64·6<br>59·9 | 67·9<br>63·0 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | (*d*) 44 Leonis Minoris | 40·5 | 42·2 | +0·1 | 61 16 41·3 | + 0·1 | ...... | ...... | ...... | + 0 30·6 | ...... | +28 48 14·8 |
| | 41 Sextantis | 26·6 | 28·3 | +0·3 | 98 7 27·5 | ...... | 39·8 | 30·05 | 43·2 | + 2 1·6 | ...... | − 8 4 2·3 |
| | θ Leonis | 16·9 | 20·8 | +0·1 | 73 47 18·7 | ...... | ...... | ...... | ...... | + 0 49·4 | ...... | +16 17 18·7 |
| | 55 Ursæ Majoris | 10·5 | 14·5 | +0·1 | 51 2 12·4 | ...... | ...... | ...... | ...... | + 0 18·1 | ...... | +39 2 56·3 |
| | γ Hydræ et Crateris | 37·5 | 37·0 | +0·4 | 106 51 37·5 | ...... | ...... | ...... | ...... | + 3 9·6 | ...... | −16 49 20·3 |
| | κ Hydræ et Crateris | 42·3 | 42·1 | +0·4 | 101 32 42·4 | ...... | ...... | ...... | ...... | + 2 22·5 | ...... | −11 29 38·1 |
| | 86 Leonis | 8·7 | 10·0 | +0·1 | 70 48 9·6 | ...... | ...... | ...... | ...... | + 0 44·4 | ...... | +19 16 32·8 |
| | θ Hydræ et Crateris | 21·9 | 24·5 | +0·4 | 98 59 23·7 | ...... | ...... | ...... | ...... | + 2 6·4 | ...... | − 8 56 3·3 |
| | 92 Leonis | 10·4 | 11·8 | +0·1 | 67 51 11·1 | ...... | ...... | ...... | ...... | + 0 39·8 | ...... | +22 13 35·9 |
| | χ Ursæ Majoris | 6·8 | 9·5 | 0·0 | 41 26 8·0 | ...... | 39·4 | 30·04 | 42·2 | + 0 7·6 | ...... | +48 39 11·2 |
| | 1 Comæ Berenices | 31·1 | 32·8 | +0·1 | 67 6 31·9 | ...... | ...... | ...... | ...... | + 0 38·7 | ...... | +22 58 16·2 |
| | 2 Comæ Beren. fol. | 38·8 | 40·2 | +0·1 | 67 44 39·6 | ...... | ...... | ...... | ...... | + 0 39·6 | ...... | +22 20 7·6 |
| | Groombridge 1858 | 37·5 | 42·1 | −0·5 | 7 30 39·2 | ...... | ...... | ...... | ...... | − 0 29·9 | ...... | +82 35 17·5 |
| | Groomb. 29 S.P. | 53·2 | 58·1 | −0·5 | 346 10 55·1 | ...... | ...... | ...... | ...... | − 1 6·1 | ...... | +76 4 22·2 |
| | 8 Comæ Berenices | 16·2 | 18·2 | +0·1 | 66 10 17·3 | ...... | ...... | ...... | ...... | + 0 37·3 | ...... | +23 54 32·2 |
| | 12 Comæ Berenices | 42·8 | 43·5 | +0·1 | 63 21 43·1 | ...... | ...... | ...... | ...... | + 0 33·4 | ...... | +26 43 10·3 |
| | 14 Comæ Berenices | 28·9 | 30·9 | +0·1 | 61 56 29·9 | ...... | ...... | ...... | ...... | + 0 31·5 | ...... | +28 8 25·4 |
| | 17 Comæ Berenices | 50·4 | 51·0 | +0·1 | 63 17 51·0 | ...... | ...... | ...... | ...... | + 0 33·3 | ...... | +26 47 2·5 |
| | 21 Comæ Berenices | 37·5 | 39·2 | +0·1 | 64 38 38·6 | ...... | ...... | ...... | ...... | + 0 35·2 | ...... | +25 26 13·0 |
| | 22 Comæ Berenices | 43·0 | 44·9 | +0·1 | 64 55 44·0 | ...... | ...... | ...... | ...... | + 0 35·6 | ...... | +25 9 7·2 |
| | 25 Comæ Berenices | 15·5 | 17·1 | +0·1 | 72 7 16·2 | ...... | ...... | ...... | ...... | + 0 46·6 | ...... | +17 57 24·0 |
| | (*e*) α Ursæ Minoris S.P. | 4·8 | 8·9 | −0·6 | 358 35 6·2 | −47·4 | 39·3 | 30·06 | 42·0 | − 0 42·6 | ...... | +88 28 9·4 |
| | (*f*) α Ursæ Minoris | 50·5 | 55·7 | −0·5 | 1 37 52·8 | + 0·1 | 42·2 | 29·99 | 43·5 | − 0 37·7 | 3·7 | +88 28 11·7 |
| Apr. 12 | Sun North Limb | 0·5 | 3·7 | +0·1 | 81 10 2·2 | ...... | 42·0 | ...... | ...... | + 1 3·5 | ...... | + 8 54 21·2 |
| | (*g*) Nadir | 59·6<br>64·8 | 62·2<br>67·3 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | ...... | 4·7<br>0·0 | 8·8<br>3·2 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | (*d*) 44 Leonis Minoris | 40·5 | 41·9 | +0·1 | 61 16 41·1 | + 0·4 | ...... | ...... | ...... | + 0 30·5 | ...... | +28 48 14·9 |
| | 41 Sextantis | 25·0 | 27·0 | +0·3 | 98 7 26·1 | ...... | 39·5 | 29·93 | 41·6 | + 2 1·2 | ...... | − 8 4 0·4 |
| | 92 Leonis | 10·9 | 13·2 | +0·1 | 67 51 12·0 | ...... | 40·0 | 29·94 | 41·6 | + 0 39·6 | ...... | +22 13 35·3 |
| | γ Corvi | 30·2 | 30·2 | +0·4 | 106 42 30·4 | ...... | ...... | ...... | ...... | + 3 7·2 | ...... | −16 40 10·7 |
| | (*h*) A.S.C. 1420 | 33·2 | 33·2 | +0·4 | 102 44 33·6 | − 0·1 | ...... | ...... | ...... | + 2 30·5 | ...... | −12 41 37·1 |
| | 13 Comæ Berenices | 36·7 | 36·6 | +0·1 | 63 6 36·6 | ...... | ...... | ...... | ...... | + 0 32·9 | ...... | +26 58 17·4 |
| | 14 Comæ Berenices | 29·2 | 31·0 | +0·1 | 61 56 30·1 | ...... | ...... | ...... | ...... | + 0 31·3 | ...... | +28 8 25·5 |
| | δ Corvi | 54·8 | 56·0 | +0·4 | 105 40 55·7 | ...... | ...... | ...... | ...... | + 2 56·0 | ...... | −15 38 24·8 |
| | η Corvi | 2·8 | 3·5 | +0·4 | 105 22 3·4 | ...... | 40·2 | 29·93 | 41·9 | + 2 52·9 | ...... | −15 19 29·4 |
| | (*i*) α Ursæ Minoris | 50·6 | 55·1 | −0·5 | 1 37 52·5 | + 1·0 | 41·8 | 29·93 | 42·6 | − 0 37·7 | ...... | +88 28 11·1 |
| Apr. 13 | Sun South Limb | 5·0 | 7·6 | +0·1 | 81 20 6·4 | ...... | 41·8 | ...... | ...... | + 1 3·8 | ...... | + 8 44 16·7 |
| | θ Leonis | 17·0 | 21·0 | +0·1 | 73 47 18·9 | ...... | 39·8 | 29·94 | 41·5 | + 0 49·2 | ...... | +16 17 18·8 |
| | (*k*) γ Hydræ et Crateris | 38·1 | 37·5 | +0·4 | 106 51 38·0 | − 0·6 | ...... | ...... | ...... | + 3 8·9 | ...... | −16 49 19·4 |

(*a*) At $0^h\ 31^m\ 53^s$.
(*b*) At $1^h\ 31^m\ 53^s$.
(*c*) At $10^h\ 50^m$.
(*d*) Wire I.
(*e*) At $12^h\ 31^m\ 53^s$.
(*f*) At $1^h\ 2^m\ 50^s$.
(*g*) At $10^h\ 15^m$.
(*h*) Wire II.
(*i*) At $1^h\ 6^m\ 24^s$.
(*k*) $1^m$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ' " | " | ° | In. | ° | ' " | ° ' " | ° ' " |
| Apr. 14 | Sun North Limb····· | 31·8 | 33·1 | +0·1 | 80 26 32·4 | ······ | 45·0 | 29·91 | 44·5 | + 1 1·4 | 304 8 3·6 | + 9 37 53·0 |
| Apr. 15 | (*a*) Mercury Centre······· | 31·2 | 33·6 | +0·2 | 91 3 32·7 | + 1·6 | 43·0 | 30·04 | 43·4 | + 1 30·7 | 3·4 | − 0 59 38·4 |
|  | (*b*) α Ursæ Minoris······· | 4·4 | 8·9 | −0·5 | 1 37 6·1 | +47·4 | ······ | ······ | ······ | − 0 37·7 | ············ | +88 28 10·8 |
|  | ························· | 51·7 | 57·2 | −0·5 | 1 37 54·0 | ······ | ······ | ······ | ······ | − 0 37·7 | ········· ··· | +88 28 10·3 |
|  | (*c*) ························· | 6·2 | 11·8 | −0·5 | 1 37 8·4 | +47·4 | ······ | ······ | ······ | − 0 37·7 | ············ | +88 28 8·5 |
| Apr. 16 | Sun South Limb ····· | 29·2 | 31·8 | +0·1 | 80 15 30·6 | · ···· | 45·1 | 30·03 | 44·0 | + 1 1·2 | ············ | + 9 48 54·8 |
|  | Venus Centre ········· | 20·9 | 24·8 | +0·1 | 76 51 22·9 | ······ | 46·0 | ···· · | ······ | + 0 54·3 | ············ | +13 13 9·4 |
|  | Mars Centre··········· | 0·7 | 4·2 | +0·1 | 73 28 2·6 | ······ | 46·2 | 30·01 | 45·0 | + 0 48·1 | ············ | +16 36 35·9 |
|  | μ Geminorum········ | 24·5 | 27·8 | +0·1 | 67 29 26·3 | ······ | 49·0 | 29·98 | 46·0 | + 0 38·4 | ············ | +22 35 21·9 |
|  | (*d*) δ Ursæ Minoris S.P.· | 24·0 | 28·5 | −0·6 | 356 41 25·6 | − 3·3 | ······ | ······ | ······ | − 0 44·7 | ············ | +86 35 11·0 |
|  | (*e*) Nadir ················ | 59·9<br>64·1 | 63·3<br>68·0 | −0·1 | 214 8 3·6 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
|  | ······················ | 63·7<br>58·7 | 67·4<br>63·0 | −0·1 | 214 8 3·2 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
|  | θ Leonis ················ | 16·9 | 20·2 | +0·1 | 73 47 18·6 | ······ | 41·8 | 30·01 | 44·3 | + 0 49·1 | ······ ····· | +16 17 18·9 |
|  | (*f*) ε Hydræ et Crateris·· | 8·6 | 10·3 | +0·4 | 100 3 9·9 | − 0·1 | ······ | ······ | ······ | + 2 11·9 | ············ | − 9 59 55·1 |
|  | (*g*) γ Hydræ et Crateris | 39·0 | 38·3 | +0·4 | 106 51 39·0 | − 0·2 | ······ | ······ | ······ | + 3 8·5 | ············ | −16 49 20·7 |
|  | (*h*) 85 Leonis ·············· | 42·0 | 44·5 | +0·1 | 73 47 43·4 | + 0·1 | ······ | ······ | ······ | + 0 49·1 | ············ | +16 16 54·0 |
|  | (*i*) 86 Leonis ·············· | 9·8 | 12·3 | +0·1 | 70 48 11·2 | + 0·1 | ······ | ······ | ······ | + 0 44·1 | ············ | +19 16 31·2 |
|  | 1 Comæ Berenices ··· | 31·9 | 33·8 | +0·1 | 67 6 32·9 | ······ | ······ | ······ | ······ | + 0 38·5 | ············ | +22 58 15·2 |
|  | 2 Comæ Berenices fol. | 38·1 | 41·4 | +0·1 | 67 44 39·9 | ······ | 41·9 | 30·00 | 43·9 | + 0 39·4 | ············ | +22 20 7·3 |
|  | Groombridge 1858··· | 35·7 | 40·7 | −0·5 | 7 30 37·7 | ······ | ······ | ······ | ······ | − 0 29·7 | ············ | +82 35 18·6 |
|  | Groomb. 29 S.P. ····· | 49·3 | 55·2 | −0·5 | 346 10 51·7 | ······ | ······ | ······ | ······ | − 1 5·6 | ············ | +76 4 19·5 |
|  | 8 Comæ Berenices ··· | 15·8 | 18·1 | +0·1 | 66 10 17·0 | ······ | ······ | ······ | ······ | + 0 37·1 | ············ | +23 54 32·5 |
|  | 12 Comæ Berenices·· | 42·9 | 44·1 | +0·1 | 63 21 43·5 | ······ | ······ | ······ | ······ | + 0 33·2 | ············ | +26 43 9·9 |
|  | 15 Comæ Berenices·· | 18·5 | 21·0 | +0·1 | 60 56 19·8 | ······ | ······ | ······ | ······ | + 0 29·9 | ············ | +29 8 36·9 |
|  | δ Corvi················· | 56·6 | 58·2 | +0·4 | 105 40 57·8 | ······ | ······ | ······ | ······ | + 2 55·8 | ············ | −15 38 27·0 |
|  | η Corvi················· | 6·8 | 6·8 | +0·4 | 105 22 7·1 | ······ | ······ | ······ | ······ | + 2 52·6 | ····· ······ | −15 19 33·1 |
|  | 8 Canum Venat.······ | 22·7 | 25·0 | +0·1 | 47 52 23·9 | ······ | ······ | ······ | ······ | + 0 14·5 | ············ | +42 12 48·2 |
|  | 25 Comæ Berenices·· | 15·6 | 18·6 | +0·1 | 72 7 17·1 | ······ | ······ | ······ | ······ | + 0 46·2 | ············ | +17 57 23·3 |
|  | 26 Comæ Berenices·· | 4·7 | 6·5 | +0·1 | 68 9 5·7 | ······ | ······ | ······ | ······ | + 0 40·0 | ············ | +21 55 40·9 |
|  | 27 Virginis ············ | 5·3 | 7·8 | +0·1 | 78 47 6·6 | ······ | ······ | ······ | ······ | + 0 56·4 | ············ | +11 17 23·6 |
|  | 33 Virginis ············ | 15·1 | 17·8 | +0·1 | 79 39 16·6 | ······ | ······ | ······ | ······ | + 1 0·2 | ············ | +10 25 9·8 |
|  | 29 Comæ Berenices·· | 38·2 | 41·8 | +0·1 | 75 5 40·1 | ······ | ······ | ······ | ······ | + 0 51·4 | ············ | +14 58 55·1 |
|  | 31 Comæ Berenices·· | 2·9 | 5·2 | +0·1 | 61 41 4·1 | ······ | ······ | ······ | ······ | + 0 30·9 | ············ | +28 23 51·6 |
|  | 41 Virginis ············ | 2·6 | 6·0 | +0·1 | 76 48 4·5 | ······ | 42·6 | 30·01 | 43·9 | + 0 54·5 | ············ | +13 16 27·6 |
|  | 36 Comæ Berenices·· | 11·5 | 13·9 | +0·1 | 71 49 12·8 | ······ | ······ | ······ | ······ | + 0 45·7 | ············ | +18 15 28·1 |
|  | (*k*) α Ursæ Minoris S.P. | 18·2 | 22·0 | −0·6 | 358 34 19·5 | − 3·8 | ······ | ······ | ······ | − 0 42·3 | ············ | +88 28 6·8 |
| Apr. 17 | (*l*) Moon North Limb··· | 39·0 | ······ | +0·1 | 68 4 40·5 | + 6·9 | ······ | ······ | ······ | + 0 39·2 | 3·6 | +22 0 0·2 |
|  | (*m*) ························· | ······ | 48·3 | +0·1 | 68 4 47·0 | ······ | ···· · | ······ | ······ | + 0 39·2 | ············ | +22 0 0·6 |
|  | (*n*) ························· | 50·6 | 53·4 | +0·1 | 68 4 52·1 | − 4·2 | 48·8 | 29·87 | 48·5 | + 0 39·2 | ············ | +21 59 59·7 |
| Apr. 18 | Sun North Limb ····· | 26·9 | 31·0 | +0·1 | 79 1 29·0 | ······ | 52·2 | 29·86 | 49·7 | + 0 57·5 | 3·8 | +11 3 0·5 |
|  | (*o*) Moon North Limb··· | 47·5 | ······ | +0·1 | 72 14 49·2 | + 7·4 | ······ | ······ | ······ | + 0 45·0 | ············ | +17 49 45·4 |
|  | (*p*) ························· | ······ | 58·4 | +0·1 | 72 14 56·8 | + 0·1 | ······ | ······ | ······ | + 0 45·0 | ············ | +17 49 45·1 |
|  | (*q*) ························· | 2·7 | 6·0 | +0·1 | 72 15 4·4 | − 6·5 | 55·3 | 29·85 | 53·6 | + 0 45·0 | ············ | +17 49 44·1 |
|  | ε Hydræ et Crateris·· | 11·5 | 13·3 | +0·4 | 100 3 12·9 | ······ | 49·1 | 29·89 | 49·5 | + 2 9·4 | ············ | − 9 59 55·3 |
|  | 85 Leonis ·············· | 42·7 | 45·7 | +0·1 | 73 47 44·4 | ······ | ······ | ······ | ······ | + 0 48·2 | ············ | +16 16 54·4 |
|  | (*r*) Nadir ········ ····· | 59·0<br>63·8 | 63·4<br>68·1 | −0·1 | 214 8 3·5 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
|  | ······················ | 64·8<br>59·2 | 69·0<br>64·1 | −0·1 | 214 8 4.1 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
|  | 1 Comæ Berenices ··· | 31·8 | 34·9 | +0·1 | 67 6 33·4 | ······ | ······ | ······ | ······ | + 0 37·8 | ············ | +22 58 15·8 |

(*a*) 1ᵐ after transit.
(*b*) $0^h\ 31^m\ 58^s$.
(*c*) At $1^h\ 31^m\ 58^s$.
(*d*) Wire IV. at $6^h\ 28^m\ 39^s$.
(*e*) At $10^h\ 40^m$.

(*f*) Wire I.
(*g*) Wire V.
(*h*) Wire II.
(*i*) Wire IV.

(*k*) At $12^h\ 53^m\ 30^s$.
(*l*) At $7^h\ 28^m\ 23^s$.
(*m*) At $7^h\ 29^m\ 9^s$.
(*n*) At $7^h\ 29^m\ 40^s$.

(*o*) At $8^h\ 28^m\ 10^s$.
(*p*) At $8^h\ 28^m\ 45^s$
(*q*) At $8^h\ 29^m\ 20^s$.
(*r*) At $11^h\ 30^m$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Apr. 18 | 4 Comæ Berenices … | 3·0 | 5·2 | +0·1 | 63 20 4·2 | …… | …… | …… | …… | + 0 32·5 | 304 8 3·8 | +26 44 50·3 |
| | γ Corvi…… …… | 32·0 | 33·3 | +0·4 | 106 42 33·2 | …… | …… | …… | …… | + 3 3·6 | ………… | −16 40 9·8 |
| | 10 Comæ Berenices·· | 35·9 | 38·5 | +0·1 | 60 44 37·3 | …… | 47·7 | 29·88 | 48·3 | + 0 29·2 | ………… | +29 20 20·5 |
| | 13 Comæ Berenices·· | 36·2 | 37·0 | +0·1 | 63 6 36·6 | …… | …… | …… | …… | + 0 32·3 | ………… | +26 58 18·1 |
| | 15 Comæ Berenices·· | 19·8 | 22·0 | +0·1 | 60 56 21·0 | …… | …… | …… | …… | + 0 29·5 | ………… | +29 8 36·5 |
| | 20 Virginis……… | 38·2 | 40·8 | +0·1 | 78 54 39·6 | …… | …… | …… | …… | + 0 57·8 | ………… | +11 9 49·6 |
| | (*a*) 24 Comæ Beren. fol.· | 5·0 | 7·7 | +0·1 | 70 50 6·4 | + 0·1 | …… | …… | …… | + 0 43·5 | ………… | +19 14 37·0 |
| | 26 Comæ Berenices·· | 3·7 | 7·4 | +0·1 | 68 9 5·7 | …… | …… | …… | …… | + 0 39·4 | ………… | +21 55 41·9 |
| | 27 Virginis· ……… | 4·6 | 7·9 | +0·1 | 78 47 6·3 | …… | …… | …… | …… | + 0 57·6 | ………… | +11 17 23·1 |
| | 33 Virginis……… | 14·0 | 17·0 | +0·1 | 79 39 15·6 | …… | …… | …… | …… | + 0 59·3 | ………… | +10 25 12·1 |
| | 29 Comæ Berenices·· | 39·0 | 43·0 | +0·1 | 75 5 41·1 | …… | …… | …… | …… | + 0 50·6 | ………… | +14 58 55·3 |
| | 31 Comæ Berenices·· | 3·1 | 5·0 | +0·1 | 61 41 4·1 | …… | …… | …… | …… | + 0 30·4 | ………… | +28 23 52·5 |
| | 36 Comæ Berenices·· | 11·8 | 14·3 | +0·1 | 71 49 13·2 | …… | …… | …… | …… | + 0 45·1 | ………… | +18 15 28·7 |
| | 37 Comæ Berenices·· | 54·1 | 57·0 | +0·1 | 58 26 55·6 | …… | …… | …… | …… | + 0 26·4 | ………… | +31 38 5·0 |
| | α Ursæ Minoris S.P. | 13·0 | 18·4 | −0·6 | 358 34 15·1 | …… | 47·1 | 29·88 | 47·7 | − 0 41·7 | ………… | +88 28 6·4 |
| | (*b*) α Ursæ Minoris …… | 26·0 | 31·1 | −0·5 | 1 37 27·9 | +25·4 | 51·7 | 29·90 | 50·5 | − 0 36·9 | 3·2 | +88 28 10·0 |
| | (*c*) ……………… | 51·6 | 56·0 | −0·5 | 1 37 53·4 | + 0·1 | …… | …… | …… | − 0 36·9 | ………… | +88 28 9·8 |
| Apr. 19 | Sun South Limb…… | 27·8 | 30·7 | +0·1 | 79 12 29·3 | …… | 55·0 | 29·88 | 52·8 | + 0 57·5 | ………… | +10 51 59·6 |
| | Venus Centre……… | 47·0 | 50·0 | +0·1 | 75 33 48·7 | …… | 55·9 | 29·88 | 53·7 | + 0 50·6 | ………… | +14 30 47·1 |
| | (*d*) Moon North Limb… | 11·1 | …… | +0·1 | 77 35 13·4 | +10·5 | …… | …… | …… | + 0 54·6 | ………… | +12 29 7·9 |
| | (*e*) ……………… | …… | 25·4 | +0·1 | 77 35 23·2 | + 0·7 | …… | …… | …… | + 0 54·6 | ………… | +12 29 7·9 |
| | (*f*) ……………… | 30·2 | 34·7 | +0·1 | 77 35 32·5 | − 8·6 | 53·1 | 29·87 | 52·9 | + 0 54·6 | ………… | +12 29 7·9 |
| | π Leonis …………… | 35·1 | 38·7 | +0·1 | 81 16 36·9 | …… | …… | …… | …… | + 1 2·1 | ………… | + 8 47 47·4 |
| | α Leonis …………… | 27·0 | 31·9 | +0·1 | 77 20 29·5 | …… | …… | …… | …… | + 0 54·2 | ………… | +12 44 2·7 |
| | 85 Leonis…………… | 42·9 | 46·1 | +0·1 | 73 47 44·7 | …… | 49·2 | 29·86 | 50·0 | + 0 48·2 | ………… | +16 16 53·5 |
| | (*g*) Nadir …………… | 58·9<br>63·1 | 62·8<br>67·5 | −0·1 | 214 8 3·1 | …… | …… | …… | …… | ……… | ………… | …………… |
| | ……………… | 63·8<br>58·8 | 68·4<br>63·0 | −0·1 | 214 8 3·3 | …… | …… | …… | …… | ……… | ………… | …………… |
| | 4 Comæ Berenices … | 2·5 | 4·9 | +0·1 | 63 20 3·8 | …… | …… | …… | …… | + 0 32·5 | ………… | +26 44 50·1 |
| | γ Corvi…………… | 32·2 | 33·1 | +0·4 | 106 42 33·2 | …… | 48·5 | 29·86 | 48·9 | + 3 3·3 | ………… | −16 40 10·1 |
| | 10 Comæ Berenices·· | 34·8 | 38·2 | +0·1 | 60 44 36·6 | …… | …… | …… | …… | + 0 29·2 | ………… | +29 20 20·6 |
| | 13 Comæ Berenices·· | 35·7 | 37·1 | +0·1 | 63 6 36·4 | …… | …… | …… | …… | + 0 32·2 | ………… | +26 58 17·8 |
| | 15 Comæ Berenices·· | 18·2 | 21·2 | +0·1 | 60 56 19·7 | …… | …… | …… | …… | + 0 29·4 | ………… | +29 8 37·3 |
| | δ Corvi…………… | 55·2 | 57·0 | +0·4 | 105 40 56·5 | …… | …… | …… | …… | + 2 52·7 | ………… | −15 38 22·8 |
| | η Corvi…………… | 7·1 | 7·6 | +0·4 | 105 22 7·7 | …… | …… | …… | …… | + 2 49·6 | ………… | −15 19 30·9 |
| | 8 Canum Venat.…… | 21·2 | 24·1 | +0·1 | 47 52 22·7 | …… | …… | …… | …… | + 0 14·2 | ………… | +42 12 49·5 |
| | 26 Comæ Berenices·· | 3·3 | 6·2 | +0·1 | 68 9 4·9 | …… | …… | …… | …… | + 0 39·3 | ………… | +21 55 42·2 |
| | 27 Virginis……… | 4·1 | 7·6 | +0·1 | 78 47 5·9 | …… | …… | …… | …… | + 0 57·5 | ………… | +11 17 23·0 |
| | 33 Virginis……… | 12·0 | 16·4 | +0·1 | 79 39 14·3 | …… | …… | …… | …… | + 0 59·3 | ………… | +10 25 12·8 |
| | 29 Comæ Berenices·· | 37·9 | 42·1 | +0·1 | 75 5 40·1 | …… | …… | …… | …… | + 0 50·6 | ………… | +14 58 55·7 |
| | 31 Comæ Berenices·· | 3·2 | 5·8 | +0·1 | 61 41 4·6 | …… | …… | …… | …… | + 0 30·4 | ………… | +28 23 51·4 |
| | 41 Virginis……… | 3·0 | 7·1 | +0·1 | 76 48 5·2 | …… | …… | …… | …… | + 0 53·7 | ………… | +13 16 27·5 |
| | 36 Comæ Berenices·· | 11·6 | 15·0 | +0·1 | 71 49 13·4 | …… | …… | …… | …… | + 0 45·0 | ………… | +18 15 28·0 |
| | 37 Comæ Berenices·· | 53·5 | 56·9 | +0·1 | 58 26 55·2 | …… | …… | …… | …… | + 0 26·4 | ………… | +31 38 4·8 |
| | α Ursæ Minoris S.P. | 12·5 | 17·9 | −0·6 | 358 34 14·6 | …… | 46·9 | 29·85 | 47·5 | − 0 41·7 | ………… | +88 28 6·5 |
| | (*h*) α Ursæ Minoris …… | 3·8 | 10·5 | −0·5 | 1 37 6·6 | +47·4 | 54·5 | 29·90 | 52·5 | − 0 36·6 | 3·3 | +88 28 9·1 |
| | Mercury Centre …… | 37·2 | 41·0 | +0·2 | 88 23 39·4 | …… | …… | …… | …… | + 1 19·7 | ………… | + 1 40 27·4 |
| | α Ursæ Minoris …… | 51·5 | 57·1 | −0·5 | 1 37 53·9 | …… | …… | …… | …… | − 0 36·5 | ………… | +88 28 9·1 |
| | (*i*) ……………… | 4·7 | 10·1 | −0·5 | 1 37 6·8 | +47·4 | 56·4 | 29·88 | 53·9 | − 0 36·5 | ………… | +88 28 8·8 |
| Apr. 20 | Sun North Limb …· | 57·1 | 60·6 | +0·1 | 78 19 59·0 | …… | …… | …… | …… | + 0 55·5 | ………… | +11 44 32 0 |
| | Venus Centre……… | 36·2 | 40·0 | +0·1 | 75 8 38·3 | …… | 58·5 | 29·88 | 54·9 | + 0 49·6 | ………… | +14 55 58·6 |

(*a*) Wire IV.
(*b*) At $0^{h}\ 40^{m}\ 4^{s}$.
(*c*) At $1^{h}\ 2^{m}\ 25^{s}$.
(*d*) At $9^{h}\ 25^{m}\ 20^{s}$.
(*e*) At $9^{h}\ 26^{m}$.
(*f*) At $9^{h}\ 26^{m}\ 40^{s}$.
(*g*) At $11^{h}\ 35^{m}$.
(*h*) $30^{m}$ before transit.
(*i*) $30^{m}$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | ′ | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Apr. 20 | π Leonis | 33·5 | 38·4 | +0·1 | 81 16 36·0 | ...... | 50·0 | 29·87 | 51·9 | + 1 2·5 | 304 8 3·3 | + 8 47 48·0 |
| | α Leonis | 27·0 | 32·9 | +0·1 | 77 20 30·0 | ...... | ...... | ...... | ...... | + 0 54·6 | ............ | +12 44 1·9 |
| | (a) Moon North Limb | 18·4 | ...... | +0·2 | 83 44 20·5 | +10·7 | ...... | ...... | ...... | + 1 8·4 | ............ | + 6 19 46·9 |
| | (b) ............ | ...... | 33·5 | +0·2 | 83 44 31·9 | − 1·3 | ...... | ...... | ...... | + 1 8·4 | ............ | + 6 19 47·5 |
| | (c) ............ | 42·2 | 45·9 | +0·2 | 83 44 44·3 | −11·8 | 48·3 | 29·88 | 51·3 | + 1 8·4 | ............ | + 6 19 45·6 |
| | (d) α Ursæ Minoris | 5·2 | 10·9 | −0·5 | 1 37 7·5 | +47·4 | 51·5 | 29·86 | 50·9 | − 0 36·9 | 3·4 | +88 28 8·6 |
| | Mercury Centre | 9·9 | 13·6 | +0·2 | 87 41 11·9 | ...... | ...... | ...... | ...... | + 1 18·0 | ............ | + 2 22 56·7 |
| | α Ursæ Minoris | 52·7 | 57·6 | −0·5 | 1 37 54·7 | ...... | ...... | ...... | ...... | − 0 36·7 | ............ | +88 28 8·6 |
| | (e) ............ | 6·2 | 12·1 | −0·5 | 1 37 8·6 | +47·4 | 53·2 | 29·86 | 51·8 | − 0 36·7 | ............ | +88 28 7·3 |
| | (f) Nadir | 59·0<br>64·0 | 62·2<br>67·1 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ............ | 64·8<br>59·1 | 69·0<br>63·3 | −0·1 | 214 8 3·8 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Apr. 21 | Sun South Limb | 20·7 | 23·3 | +0·1 | 78 31 22·0 | ...... | ...... | ...... | ...... | + 0 56·4 | 3·3 | +11 33 8·1 |
| | Venus Centre | 48·8 | 53·0 | +0·1 | 74 43 51·1 | ...... | ...... | ...... | ...... | + 0 49·4 | ............ | +15 20 46·0 |
| | (g) Moon North Limb | 44·2 | ...... | +0·2 | 90 18 45·9 | +10·2 | ...... | ...... | ...... | + 1 25·2 | ............ | − 0 14 54·8 |
| | (h) ............ | ...... | 62·7 | +0·2 | 90 19 1·4 | − 5·0 | ...... | ...... | ...... | + 1 25·2 | ............ | − 0 14 55·1 |
| | (i) ............ | 13·4 | 16·4 | +0·2 | 90 19 15·1 | −17·9 | 56·0 | 29·81 | ...... | + 1 25·2 | ............ | − 0 14 55·9 |
| | (k) α Ursæ Minoris | 27·1 | 32·0 | −0·5 | 1 37 28·9 | +25·5 | 50·7 | 29·75 | 51·9 | − 0 36·8 | 3·5 | +88 28 9·1 |
| | Mercury Centre | 44·4 | 48·0 | +0·2 | 86 57 46·5 | ...... | ...... | ...... | ...... | + 1 16·0 | ............ | + 3 6 24·2 |
| | α Ursæ Minoris | 52·2 | 57·5 | −0·5 | 1 37 54·4 | ...... | ...... | ...... | ...... | − 0 36·8 | ............ | +88 28 9·1 |
| | (l) ............ | 27·1 | 33·0 | −0·5 | 1 37 29·5 | +25·5 | ...... | ...... | ...... | − 0 36·8 | ............ | +88 28 8·5 |
| Apr. 22 | Sun North Limb | 9·0 | 12·9 | +0·1 | 77 39 11·1 | ...... | 51·3 | 29·74 | 51·8 | + 0 54·7 | ............ | +12 25 20·9 |
| | Venus Centre | 25·0 | 28·5 | +0·1 | 74 19 26·9 | ...... | 51·0 | 29·73 | 52·0 | + 0 48·7 | ............ | +15 45 11·1 |
| | υ Leonis | 23·1 | 27·0 | +0·2 | 90 1 25·2 | ...... | 47·6 | 29·70 | 51·2 | + 1 25·4 | ............ | + 0 2 36·1 |
| | β Virginis | 3·2 | 9·0 | +0·2 | 87 25 6·3 | ...... | ...... | ...... | ...... | + 1 17·7 | ............ | + 2 39 2·7 |
| | 4 Comæ Berenices | 4·0 | 6·6 | +0·1 | 63 20 5·4 | ...... | ...... | ...... | ...... | + 0 32·5 | ............ | +26 44 48·8 |
| | 12 Virginis | 11·3 | 15·3 | +0·1 | 78 56 12·3 | ...... | ...... | ...... | ...... | + 0 57·7 | ............ | +11 8 16·7 |
| | (m) Moon North Limb | 55·8 | ...... | +0·3 | 96 53 57·8 | + 9·2 | ...... | ...... | ...... | + 1 52·6 | ............ | − 6 50 32·9 |
| | (n) ............ | ...... | 6·1 | +0·3 | 96 54 4·8 | − 0·5 | ...... | ...... | ...... | + 1 52·6 | ............ | − 6 50 30·2 |
| | (o) ............ | 13·3 | 16·6 | +0·3 | 96 54 15·3 | −10·8 | 46·3 | 29·71 | 50·4 | + 1 52·6 | ............ | − 6 50 30·4 |
| | 16 Comæ Berenices | 2·8 | 6·3 | +0·1 | 62 23 4·7 | ...... | ...... | ...... | ...... | + 0 31·2 | ............ | +27 41 50·8 |
| | 21 Comæ Berenices | 37·9 | 40·0 | +0·1 | 64 38 39·1 | ...... | ...... | ...... | ...... | + 0 34·3 | ............ | +25 26 13·3 |
| | 21 Virginis | 29·0 | 31·0 | +0·3 | 98 38 30·4 | ...... | ...... | ...... | ...... | + 2 1·5 | ............ | − 8 35 5·2 |
| | ϱ Virginis | 16·2 | 20·7 | +0·1 | 78 58 18·6 | ...... | ...... | ...... | ...... | + 0 57·8 | ............ | +11 6 10·3 |
| | 27 Comæ Berenices | 23·0 | 25·0 | +0·1 | 72 38 24·2 | ...... | ...... | ...... | ...... | + 0 46·2 | ............ | +17 26 16·3 |
| | 30 Comæ Berenices | 18·9 | 21·2 | +0·1 | 61 40 20·1 | ...... | ...... | ...... | ...... | + 0 30·3 | ............ | +28 24 36·3 |
| | ψ Virginis | 29·8 | 32·0 | +0·3 | 98 44 31·2 | ...... | ...... | ...... | ...... | + 2 2·0 | ............ | − 8 41 6·5 |
| | (p) α Ursæ Minoris S.P. | 20·8 | 25·4 | −0·6 | 358 34 22·5 | − 9·0 | ...... | ...... | ...... | − 0 41·6 | ............ | +88 28 5·2 |
| | 37 Comæ Berenices | 53·6 | 57·0 | +0·1 | 58 26 55·3 | ...... | ...... | ...... | ...... | + 0 26·3 | ............ | +31 38 5·1 |
| | 14 Canum Venat. | 34·2 | 36·7 | +0·1 | 53 26 35·5 | ...... | ...... | ...... | ...... | + 0 20·4 | ............ | +36 38 30·8 |
| | 42 Comæ Berenices | 55·0 | 58·0 | +0·1 | 71 42 56·7 | ...... | ...... | ...... | ...... | + 0 44·8 | ............ | +18 21 45·2 |
| | A.S.C. 1516 | 51·5 | 55·8 | +0·1 | 77 40 53·7 | ...... | 46·0 | 29·71 | 49·7 | + 0 55·3 | ............ | +12 23 37·7 |
| | (q) Mercury Centre | 24·9 | 28·0 | +0·2 | 86 13 26·7 | + 1·6 | ...... | ...... | ...... | + 1 14·3 | 3·7 | + 3 50 44·3 |
| | α Ursæ Minoris | 53·5 | 58·2 | −0·5 | 1 37 55·4 | ...... | 47·5 | 29·70 | 51·0 | − 0 36·9 | ............ | +88 28 8·4 |
| | (r) Nadir | 58·9<br>64·4 | 62·2<br>68·0 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ............ | 65·4<br>59·0 | 68·8<br>63·5 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Apr. 23 | Sun South Limb | 56·1 | 60·2 | +0·1 | 77 50 58·2 | ...... | 49·5 | 29·69 | 51·2 | + 0 55·2 | ............ | +12 13 33·5 |

(a) At $10^{h}\ 20^{m}\ 45^{s}$.
(b) At $10^{h}\ 21^{m}\ 30^{s}$.
(c) At $10^{h}\ 22^{m}\ 10^{s}$.
(d) $30^{m}$ before transit.
(e) $30^{m}$ after transit.

(f) At $1^{h}\ 45^{m}$.
(g) At $11^{h}\ 15^{m}\ 10^{s}$.
(h) At $11^{h}\ 16^{m}\ 5^{s}$.
(i) At $11^{h}\ 16^{m}\ 52^{s}$.

(k) $22^{m}$ before transit.
(l) $22^{m}$ after transit.
(m) At $12^{h}\ 9^{m}\ 35^{s}$. *
(n) At $12^{h}\ 10^{m}\ 12^{s}$. *
(o) At $12^{h}\ 10^{m}\ 50^{s}$. *

(p) At $12^{h}\ 49^{m}\ 5^{s}$.
(q) $50^{s}$ after transit.
(r) At $1^{h}\ 35^{m}$.

* Tremulous and ill-defined.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Apr. 23 | Venus Centre........ | 24·9 | 27·7 | +0·1 | 73 55 26·4 | ...... | 49·2 | 29·68 | 51·0 | + 0 48·1 | 304 8 3·7 | +16 9 12·4 |
| Apr. 25 | Sun North Limb...... | 37·2 | 39·8 | +0·1 | 76 39 38·6 | ...... | 45·5 | 29·85 | 49·2 | + 0 53·7 | 3·0 | −13 24 53·9 |
| | Venus Centre ........ | 36·4 | 40·5 | +0·1 | 73 8 38·6 | ...... | 46·8 | 29·84 | 48·7 | + 0 47·3 | ............ | +16 56 0·3 |
| | (*a*) Nadir .............. | 59·0<br>64·0 | 62·0<br>67·0 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ..... | ......... | ............ | .............. |
| | ...................... | 64·0<br>59·0 | 67·3<br>62·6 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | (*b*) 5 Comæ Berenices ... | 36·5 | 40·1 | +0·1 | 68 39 38·4 | + 0·3 | ...... | ...... | ...... | + 0 40·4 | ............ | +21 25 7·1 |
| | 6 Comæ Berenices ... | 4·1 | 8·2 | +0·1 | 74 18 6·3 | ...... | 44·7 | 29·88 | 47·7 | + 0 49·5 | ............ | +15 46 30·4 |
| | 10 Comæ Berenices... | 34·5 | 37·6 | +0·1 | 60 44 36·2 | ...... | ...... | ...... | ...... | + 0 29·4 | ............ | +29 20 20·6 |
| | 16 Comæ Berenices... | 0·5 | 4·2 | +0·1 | 62 23 2·5 | ...... | ...... | ...... | ...... | + 0 31·6 | ............ | +27 41 52·1 |
| | 17 Comæ Berenices... | 47·2 | 50·1 | +0·1 | 63 17 48·8 | ...... | ...... | ...... | ...... | + 0 32·8 | ............ | +26 47 4·6 |
| | 20 Virginis ............ | 35·8 | 40·0 | +0·1 | 78 54 38·0 | ...... | ...... | ...... | ...... | + 0 58·2 | ............ | +11 9 50·0 |
| | 24 Comæ Beren. fol. | 2·8 | 5·7 | +0·1 | 70 50 4·3 | ...... | ...... | ...... | ...... | + 0 43·7 | ............ | +19 14 38·2 |
| | ϱ Virginis ............... | 13·7 | 18·5 | +0·1 | 78 58 16·2 | ...... | ...... | ...... | ...... | + 0 58·3 | ............ | +11 6 11·7 |
| | 27 Comæ Berenices.. | 22·9 | 26·0 | +0·1 | 72 38 24·6 | ...... | ...... | ...... | ...... | + 0 46·6 | ............ | +17 26 15·0 |
| | 30 Comæ Berenices.. | 17·4 | 19·8 | +0·1 | 61 40 18·7 | ...... | ...... | ...... | ...... | + 0 30·6 | ............ | +28 24 36·9 |
| | 35 Comæ Berenices.. | 39·7 | 43·6 | +0·1 | 67 58 41·8 | ...... | ...... | ...... | ...... | + 0 39·4 | ............ | +22 6 5·0 |
| | (*c*) α Ursæ Minoris S.P. | 18·0 | 22·2 | −0·6 | 358 34 19·5 | − 6·4 | ...... | ...... | ...... | − 0 42·0 | ............ | +88 28 4·9 |
| | 38 Comæ Berenices.. | 19·0 | 21·0 | +0·1 | 72 6 20·1 | ...... | ...... | ...... | ...... | + 0 45·8 | ............ | +17 58 20·3 |
| | 14 Canum Venat..... | 33·7 | 35·5 | +0·1 | 53 26 34·7 | ...... | ...... | ...... | ...... | + 0 20·6 | ............ | +36 38 30·9 |
| | A.S.C. 1508........... | 53·9 | 56·0 | +0·1 | 61 40 55·0 | ...... | ...... | ...... | ...... | + 0 30·6 | ............ | +28 24 0·6 |
| | 42 Comæ Berenices.. | 55·0 | 57·5 | +0·1 | 71 42 56·4 | ...... | ...... | ...... | ...... | + 0 45·1 | ............ | +18 21 44·7 |
| | 43 Comæ Berenices.. | 18·8 | 20·8 | +0·1 | 61 24 19·9 | ...... | ...... | ...... | ...... | + 0 30·2 | ............ | +28 40 36·1 |
| | 57 Virginis ............ | 12·8 | 13·4 | +0·5 | 109 8 13·6 | ...... | ...... | ...... | ...... | + 3 35·6 | ............ | −19 6 23·0 |
| | (*d*) Groombridge 1977... | 30·0 | 33·2 | −0·5 | 8 47 31·1 | ...... | ...... | ...... | ...... | − 0 27·8 | ............ | +81 18 22·9 |
| | 64 Virginis ............ | 26·0 | 27·8 | +0·2 | 84 5 27·1 | ...... | 44·9 | 29·89 | 47·0 | + 1 9·7 | ............ | + 5 58 49·4 |
| | 80 Ursæ Majoris..... | 50·9 | 53·2 | −0·1 | 34 16 51·9 | ...... | ...... | ...... | ...... | + 0 0·2 | ............ | +55 48 34·1 |
| | 71 Virginis............ | 21·8 | 24·1 | +0·1 | 78 26 23·0 | ...... | ...... | ...... | ...... | + 0 57·2 | ............ | +11 38 6·0 |
| | 78 Virginis............ | 7·0 | 9·0 | +0·2 | 85 36 8·2 | ...... | ...... | ...... | ...... | + 1 13·6 | ............ | + 4 28 4·4 |
| | 1 Bootis ............... | 34·7 | 36·4 | +0·1 | 69 19 35·7 | ...... | ...... | ...... | ...... | + 0 41·4 | ............ | +20 45 9·1 |
| | 84 Virginis............ | 6·0 | 7·8 | +0·2 | 85 44 7·1 | ...... | ...... | ...... | ...... | + 1 14·0 | ............ | + 4 20 5·1 |
| | 3 Bootis ............... | 17·8 | 18·1 | +0·1 | 63 35 18·0 | ...... | ...... | ...... | ...... | + 0 33·1 | ............ | +26 29 35·1 |
| | Groomb. 404 S.P. ... | 16·1 | 20·0 | −0·5 | 347 15 17·5 | ...... | ..... | ...... | ...... | − 1 2·7 | ............ | +77 8 48·6 |
| | 9 Bootis ............... | 0·9 | 2·9 | +0·1 | 61 49 2·0 | ...... | ...... | ...... | ...... | + 0 30·8 | ............ | +28 15 53·4 |
| | 3 Ursæ Minoris ...... | 23·9 | 26·4 | −0·4 | 14 45 24·7 | ...... | ...... | ...... | ...... | − 0 20·7 | ............ | +75 20 22·2 |
| | A.S.C. 1621 .......... | 57·4 | 59·5 | +0·1 | 70 25 58·5 | ...... | ...... | ...... | ...... | + 0 43·1 | ............ | +19 38 44·6 |
| | 102 Virginis .......... | 5·8 | 7·8 | +0·2 | 91 36 7·0 | ...... | ...... | ...... | ...... | + 1 31·8 | ............ | − 1 32 12·6 |
| | Groomb. 506 S.P..... | 40·9 | 44·8 | −0·5 | 351 2 42·4 | ...... | 44·2 | 29·88 | 46·4 | − 0 54·9 | .. ......... | +80 56 21·3 |
| | α² Libræ ............... | 44·0 | 43·9 | +0·4 | 105 25 44·3 | ...... | ...... | ...... | ...... | + 2 51·9 | ............ | −15 23 10·0 |
| | β Ursæ Minoris ...... | 56·0 | 59·0 | −0·4 | 15 17 57·1 | ...... | ...... | ...... | ...... | − 0 20·0 | ............ | +74 47 49·1 |
| | (*e*) Moon South Limb... | 29·4 | ...... | +0·5 | 113 9 30·1 | + 6·5 | ...... | ...... | ...... | + 4 54·0 | ............ | −23 9 4·4 |
| | (*f*) ......................... | ...... | 32·9 | +0·5 | 113 9 33·3 | + 0·3 | ...... | ...... | ...... | + 4 54·0 | ............ | −23 9 1·4 |
| | (*g*) ......................... | 39·7 | 40·0 | +0·5 | 113 9 40·4 | − 6·7 | 45·0 | 29·88 | 46·6 | + 4 54·0 | ............ | −23 9 1·5 |
| | α Ursæ Minoris ...... | 54·1 | 59·1 | −0·5 | 1 37 56·1 | ...... | 50·4 | 29·90 | 50·0 | − 0 37·0 | 3·0 | +88 28 7·1 |
| | Mercury Centre...... | 41·8 | 44·2 | +0·2 | 83 55 43·2 | ...... | ...... | ...... | .... . | + 1 8·6 | ............ | + 6 8 34·4 |
| Apr. 26 | Sun South Limb .... | 0·5 | 4·3 | +0·1 | 76 52 2·5 | ...... | 53·9 | 29·88 | 51·0 | + 0 53·2 | ............ | +13 12 30·5 |
| | Venus Centre......... | 52·2 | 56·2 | +0·1 | 72 45 54·3 | ...... | 56·1 | 29·88 | 53·0 | + 0 45·8 | ............ | +17 18 46·1 |
| | Mars Centre ......... | 44·7 | 46·2 | +0·1 | 71 24 45·6 | ...... | 56·8 | ...... | ...... | + 0 43·6 | ............ | +18 39 57·0 |
| | (*h*) Nadir ............... | 58·4<br>63·7 | 62·1<br>67·0 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 64·2<br>58·5 | 67·8<br>63·4 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |

(*a*) At $10^h\ 50^m$.
(*b*) Wire V.
(*c*) At $12^h\ 51^m\ 12^s$.

(*d*) Following divisions.
(*e*) At $15^h\ 1^m\ 30^s$.
(*f*) At $15^h\ 2^m\ 15^s$.

(*g*) At $15^h\ 3^m$.
(*h*) At $11^h\ 30^m$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Apr. 26 | 5 Comæ Berenices ··· | 37·5 | 41·0 | +0·1 | 68 39 39·4 | ······ | 49·0 | 29·90 | 51·0 | + 0 40·0 | 304 8 3·0 | +21 25 6·8 |
| | 6 Comæ Berenices ··· | 5·1 | 7·6 | +0·1 | 74 18 6·5 | ······ | ······ | ······ | ······ | + 0 49·1 | ············ | +15 46 30·6 |
| | A.S.C. 1420 ··········· | 36·0 | 36·8 | +0·4 | 102 44 36·8 | ······ | ······ | ······ | ······ | + 2 27·6 | ············ | −12 41 38·2 |
| | 16 Comæ Berenices·· | 59·8 | 62·7 | +0·1 | 62 23 1·4 | ······ | ······ | ······ | ······ | + 0 31·3 | ············ | +27 41 53·5 |
| | δ Corvi ····· ··········· | 58·1 | 60·0 | +0·4 | 105 40 59·4 | ······ | ······ | ······ | ······ | + 2 52·8 | ············ | −15 38 26·0 |
| | 20 Virginis··········· | 36·0 | 38·1 | +0·1 | 78 54 37·2 | ······ | ······ | ······ | ······ | + 0 57·8 | ············ | +11 9 51·2 |
| | 24 Comæ Beren., fol. | 4·0 | 5·9 | +0·1 | 70 50 5·0 | ······ | ······ | ······ | ······ | + 0 43·4 | ············ | +19 14 37·8 |
| | ϱ Virginis·············· | 15·1 | 18·5 | +0·1 | 78 58 16·9 | ······ | ······ | ······ | ······ | + 0 57·9 | ············ | +11 6 11·4 |
| | 27 Comæ Berenices·· | 23·0 | 24·6 | +0·1 | 72 38 23·9 | ······ | ······ | ······ | ······ | + 0 46·3 | ············ | +17 26 16·0 |
| | 30 Comæ Berenices·· | 18·3 | 19·5 | +0·1 | 61 40 19·0 | ······ | ······ | ······ | ······ | + 0 30·4 | ············ | +28 24 36·8 |
| | 35 Comæ Berenices·· | 41·3 | 43·0 | +0·1 | 67 58 42·3 | ······ | ······ | ······ | ······ | + 0 39·1 | ············ | +22 6 4·8 |
| | (*a*) α Ursæ Minoris S.P. | 16·4 | 21·0 | −0·6 | 358 34 18·1 | − 5·8 | ······ | ······ | ······ | − 0 41·7 | ············ | +88 28 4·4 |
| | 38 Comæ Berenices·· | 19·0 | 20·1 | +0·1 | 72 6 19·6 | ······ | ······ | ······ | ······ | + 0 45·5 | ············ | +17 58 21·1 |
| | 14 Canum Venat.···· | 33·2 | 34·2 | +0·1 | 53 26 33·8 | ······ | ······ | ······ | ······ | + 0 20·4 | ············ | +36 38 32·0 |
| | A.S.C. 1508 ··········· | 54·2 | 55·6 | +0·1 | 61 40 55·0 | ······ | ······ | ······ | ······ | + 0 30·5 | ············ | +28 24 0·7 |
| | 42 Comæ Berenices·· | 56·7 | 57·3 | +0·1 | 71 42 57·1 | ······ | ······ | ······ | ····· | + 0 44·9 | ············ | +18 21 44·2 |
| | 43 Comæ Berenices·· | 20·0 | 20·2 | +0·1 | 61 24 20·2 | ······ | ······ | ······ | ······ | + 0 30·1 | ············ | +28 40 35·9 |
| | 57 Virginis ··········· | 13·7 | 14·2 | +0·5 | 109 8 14·5 | ······ | ······ | ······ | ······ | + 3 34·4 | ············ | −19 6 22·7 |
| | (*b*) Groombridge 1977··· | 30·0 | 32·8 | −0·5 | 8 47 30·9 | ······ | ······ | ······ | ······ | − 0 27·6 | ············ | +81 18 22·9 |
| | 64 Virginis··········· | 25·8 | 27·0 | +0·2 | 84 5 26·6 | ······ | 47·2 | 29·89 | 49·6 | + 1 9·4 | ············ | + 5 58 50·2 |
| | 80 Ursæ Majoris ····· | 50·8 | 51·9 | −0·1 | 34 16 51·2 | ······ | ······ | ······ | ······ | + 0 0·2 | ············ | +55 48 34·8 |
| | 71 Virginis······ ····· | 22·8 | 23·3 | +0·1 | 78 26 23·1 | ······ | ······ | ······ | ······ | + 0 56·9 | ············ | +11 38 6·2 |
| | 78 Virginis··········· | 8·5 | 9·9 | +0·2 | 85 36 9·4 | ······ | ······ | ······ | ······ | + 1 13·3 | ············ | + 4 28 3·5 |
| | 1 Bootis··············· | 34·9 | 35·8 | +0·1 | 69 19 35·5 | ······ | ······ | ······ | ······ | + 0 41·2 | ············ | +20 45 9·5 |
| | 84 Virginis··········· | 5·0 | 7·2 | +0·2 | 85 44 6·3 | ······ | ······ | ······ | ······ | + 1 13·6 | ············ | + 4 20 6·3 |
| | 3 Bootis··············· | 19·0 | 19·5 | +0·1 | 63 35 19·3 | ······ | ······ | ······ | ······ | + 0 33·0 | ············ | +26 29 33·9 |
| | Groomb. 404 S.P. ··· | 16·1 | 20·0 | −0·5 | 347 15 17·5 | ······ | ······ | ······ | ······ | − 1 2·4 | ············ | +77 8 48·9 |
| | 9 Bootis ··············· | 1·4 | 2·8 | +0·1 | 61 49 2·2 | ······ | ······ | ······ | ······ | + 0 30·7 | ············ | +28 15 53·3 |
| | 3 Ursæ Minoris ······ | 23·7 | 26·3 | −0·4 | 14 45 24·6 | ······ | ······ | ······ | ······ | − 0 20·6 | ············ | +75 20 22·2 |
| | A.S.C. 1621 ··········· | 57·7 | 59·1 | +0·1 | 70 25 58·5 | ······ | ······ | ······ | ······ | + 0 43·0 | ············ | +19 38 44·7 |
| | 102 Virginis··········· | 4·9 | 6·4 | +0·2 | 91 36 5·8 | ······ | ······ | ······ | ······ | + 1 31·6 | ············ | − 1 32 11·2 |
| | Groomb. 506 S.P.···· | 39·0 | 42·8 | −0·5 | 351 2 40·4 | ······ | 45·7 | 29·91 | 48·6 | − 0 54·8 | ············ | +80 56 19·4 |
| | $\alpha^2$ Libræ ··············· | 43·6 | 42·5 | +0·4 | 105 25 43·4 | ······ | ······ | ······ | ······ | + 2 51·5 | ············ | −15 23 8·7 |
| | β Ursæ Minoris ······ | 55·2 | 57·9 | −0·4 | 15 17 56·2 | ······ | ······ | ······ | ······ | − 0 20·0 | ············ | +74 47 50·0 |
| | Piazzi II. 255 S.P.··· | 16·0 | 20·0 | −0·5 | 347 15 17·5 | ······ | ······ | ······ | ······ | − 1 2·5 | ············ | +77 8 48·8 |
| | Groombridge 2213··· | 34·6 | 37·7 | −0·5 | 5 32 35·7 | ······ | 46·0 | 29·89 | 47·8 | − 0 31·9 | ············ | +84 33 22·4 |
| | α Coronæ Borealis··· | 11·5 | 12·1 | +0·1 | 62 50 11·9 | ······ | ······ | ······ | ······ | + 0 32·1 | ············ | +27 14 42·2 |
| | ϰ Libræ ··············· | 45·2 | 43·9 | +0·5 | 109 11 45·0 | ······ | ······ | ······ | ······ | + 3 36·2 | ············ | −19 9 55·0 |
| | ζ Ursæ Minoris······· | 28·9 | 30·5 | −0·4 | 11 49 29·3 | ······ | ······ | ······ | ······ | − 0 24·1 | ············ | +78 16 21·0 |
| | $\beta^1$ Scorpii ·············· | 59·2 | 58·8 | +0·5 | 109 23 59·5 | ······ | ······ | ······ | ······ | + 3 39·9 | ············ | −19 22 13·2 |
| | (*c*) Moon South Limb··· | 12·8 | ······ | +0·5 | 115 52 13·5 | + 3·4 | ······ | ······ | ······ | + 6 25·8 | ············ | −25 53 16·5 |
| | (*d*) ························ | ······ | 16·9 | +0·5 | 115 52 17·2 | + 0·2 | ······ | ······ | ······ | + 6 25·8 | ············ | −25 53 17·0 |
| | (*e*) ························ | 20·9 | 21·3 | +0·5 | 115 52 21·6 | − 4·2 | 44·1 | 29·89 | 46·7 | + 6 25·8 | ············ | −25 53 17·0 |
| | α Ursæ Minoris······· | 53·5 | 59·2 | −0·5 | 1 37 55·9 | ·· ··· | 49·0 | 29·86 | 50·2 | − 0 37·0 | 3·2 | +88 28 7·5 |
| | Mercury Centre······· | 20·8 | 22·0 | +0·2 | 83 8 21·6 | ······ | ······ | ······ | ······ | + 1 6·8 | ············ | + 6 55 58·0 |
| Apr. 27 | Sun North Limb····· | 58·7 | 62·9 | +0·1 | 76 1 0·9 | ······ | 48·8 | 29·85 | 50·0 | + 0 52·1 | ············ | +14 3 33·4 |
| | Venus Centre ········· | 33·0 | 35·9 | +0·1 | 72 23 34·6 | ······ | 51·5 | 29·83 | 50·8 | + 0 45·6 | ············ | +17 41 6·2 |
| | Mars Centre··········· | 23·5 | 25·7 | +0·1 | 71 13 24·7 | ······ | 51·0 | ······ | ······ | + 0 43·7 | ············ | +18 51 18·0 |
| | α Ursæ Minoris ······ | 55·9 | 60·1 | −0·5 | 1 37 57·5 | ······ | 43·6 | 29·81 | 47·0 | − 0 37·4 | 3·3 | +88 28 6·4 |
| | Mercury Centre ······ | 20·0 | 22·9 | +0·1 | 82 20 21·5 | ······ | ······ | ······ | ····· | + 1 5·6 | ············ | + 7 43 59·4 |
| Apr. 28 | (*f*) Sun South Limb······ | 45·0 | 49·8 | +0·1 | 76 13 47·5 | +0·3 | 46·7 | 29·81 | 47·7 | + 0 52·6 | ············ | +13 50 46·1 |
| | Venus Centre········· | 43·5 | 47·0 | +0·1 | 72 1 45·3 | ······ | 47·0 | 29·80 | 48·0 | + 0 45·3 | ············ | +18 2 55·9 |

(*a*) At $12^h\ 51^m\ 50^s$.
(*b*) Following divisions.

(*c*) At $16^h\ 2^m\ 10^s$.
(*d*) At $16^h\ 2^m\ 55^s$.

(*e*) At $16^h\ 3^m\ 45^s$.
(*f*) Wire IV.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Apr. 28 | Mars Centre ·········· | 9·2 | 12·5 | +0·1 | 71 2 10·9 | ······ | 47·5 | ······ | ······ | + 0 43·7 | 304 8 3·3 | +19 2 31·9 |
| | (*a*) Nadir ················ | 0·0<br>4·6 | 3·0<br>7·2 | −0·1 | 214 8 3·6 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | ······················ | 63·7<br>59·0 | 67·2<br>62·5 | −0·1 | 214 8 3·0 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | 5 Comæ Berenices ··· | 39·0 | 42·0 | +0·1 | 68 39 40·6 | ······ | 45·2 | 29·81 | 48·5 | + 0 40·2 | ············ | +21 25 5·7 |
| | (*b*) 6 Comæ Berenices···· | 6·5 | 8·9 | +0·1 | 74 18 7·8 | 0·0 | ······ | ······ | ······ | + 0 49·3 | ············ | +15 46 29·4 |
| | A.S.C. 1420 ·········· | 37·2 | 36·0 | +0·4 | 102 44 37·0 | ······ | ······ | ······ | ······ | + 2 28·3 | ············ | −12 41 38·8 |
| | 22 Comæ Berenices·· | 42·9 | 45·4 | +0·1 | 64 55 44·2 | ······ | ······ | ······ | ······ | + 0 34·9 | ············ | +25 9 7·4 |
| | 23 Comæ Berenices·· | 0·2 | 2·8 | +0·1 | 66 35 1·6 | ······ | ······ | ······ | ······ | + 0 37·2 | ············ | +23 29 47·7 |
| | 31 Virginis ··········· | 6·9 | 8·3 | +0·1 | 82 24 7·7 | ······ | ······ | ······ | ······ | + 1 5·5 | ············ | + 7 40 13·3 |
| | 34 Virginis ··········· | 23·5 | 27·2 | +0·1 | 77 15 25·4 | ······ | ······ | ······ | ······ | + 0 54·7 | ············ | +12 49 6·4 |
| | 35 Comæ Berenices ·· | 41·3 | 43·9 | +0·1 | 67 58 42·7 | ······ | ······ | ······ | ······ | + 0 39·2 | ············ | +22 6 4·6 |
| | (*c*) α Ursæ Minoris S.P.· | 19·9 | 24·4 | −0·6 | 358 34 21·6 | − 7·6 | ······ | ······ | ······ | − 0 41·8 | ············ | +88 28 5·7 |
| | 38 Comæ Berenices·· | 18·7 | 21·1 | +0·1 | 72 6 20·0 | ······ | ······ | ······ | ······ | + 0 45·6 | ············ | +17 58 20·9 |
| | 39 Comæ Berenices·· | 51·0 | 53·4 | +0·1 | 68 4 52·3 | ······ | ······ | ······ | ······ | + 0 39·4 | ············ | +21 59 54·8 |
| | A.S.C. 1508 ·········· | 53·9 | 55·8 | +0·1 | 61 40 54·9 | ······ | ······ | ······ | ······ | + 0 30·6 | ············ | +28 24 1·0 |
| | 43 Comæ Berenices·· | 19·8 | 21·0 | +0·1 | 61 24 20·5 | ······ | ······ | ······ | ······ | + 0 30·2 | ············ | +28 40 35·8 |
| | 57 Virginis ··········· | 11·8 | 12·9 | +0·5 | 109 8 12·9 | ······ | ······ | ······ | ······ | + 3 35·0 | ············ | −19 6 21·4 |
| | Groombridge 1977··· | 30·8 | 33·9 | −0·5 | 8 47 31·9 | ······ | ······ | ······ | ······ | − 0 27·7 | ············ | +81 18 22·3 |
| | 64 Virginis ··········· | 26·0 | 28·0 | +0·2 | 84 5 27·2 | ······ | ······ | ······ | ······ | + 1 9·5 | ············ | + 5 58 49·8 |
| | 80 Ursæ Majoris ····· | 49·2 | 52·0 | −0·1 | 34 16 50·5 | ······ | ······ | ······ | ······ | + 0 0·2 | ············ | +55 48 35·8 |
| | 71 Virginis ··········· | 22·6 | 24·2 | +0·1 | 78 26 23·5 | ······ | ······ | ······ | ······ | + 0 57·1 | ············ | +11 38 5·9 |
| | 78 Virginis ··········· | 7·9 | 10·0 | +0·2 | 85 36 9·1 | ······ | 44·8 | 29·80 | 47·3 | + 1 13·4 | ············ | + 4 28 4·0 |
| | α Ursæ Minoris······· | 55·1 | 60·0 | −0·5 | 1 37 57·1 | ······ | 49·7 | 29·79 | 49·7 | − 0 36·9 | 3·2 | +88 28 6·2 |
| | (*d*) Mercury Centre ······ | 43·3 | 45·1 | +0·1 | 81 31 44·3 | + 2·9 | ······ | ······ | ······ | + 1 2·9 | ············ | + 8 32 36·3 |
| Apr. 29 | Sun North Limb ····· | 11·7 | 16·0 | +0·1 | 75 23 14·0 | ······ | 49·8 | 29·78 | 50·0 | + 0 50·7 | ············ | +14 41 21·7 |
| | Venus Centre ········ | 22·9 | 24·4 | +0·1 | 71 40 23·7 | ······ | 51·6 | 29·77 | 50·4 | + 0 44·3 | ············ | +18 24 18·4 |
| | (*e*) Mars Centre·········· | 8·1 | 10·7 | +0·1 | 70 51 9·5 | + 0·2 | ······ | ······ | ······ | + 0 43·0 | ············ | +19 13 33·7 |
| | (*f*) Nadir ················ | 0·0<br>4·8 | 2·9<br>8·1 | −0·1 | 214 8 3·8 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | ······················ | 63·0<br>58·5 | 67·1<br>62·3 | −0·1 | 214 8 2·7 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | 12 Virginis············ | 11·0 | 14·1 | +0·1 | 78 56 12·6 | ······ | ······ | ······ | ······ | + 0 57·6 | ············ | +11 8 16·2 |
| | 7 Comæ Berenices···· | 33·5 | 37·4 | +0·1 | 65 15 35·5 | ······ | 47·8 | 29·75 | 51·0 | + 0 35·1 | ············ | +24 49 15·8 |
| | 11 Comæ Berenices ·· | 54·8 | 58·1 | +0·1 | 71 24 56·6 | ······ | ······ | ······ | ······ | + 0 44·2 | ············ | +18 39 45·6 |
| | 8 Canum Venat.······ | 20·8 | 23·1 | +0·1 | 47 52 22·0 | ······ | ······ | ······ | ······ | + 0 14·2 | ············ | +42 12 50·2 |
| | 31 Virginis ··········· | 6·5 | 10·0 | +0·1 | 82 24 8·4 | ······ | ······ | ······ | ······ | + 1 5·1 | ············ | + 7 40 12·9 |
| | 34 Virginis ··········· | 22·2 | 26·7 | +0·1 | 77 15 24·5 | ······ | ······ | ······ | ······ | + 0 54·4 | ············ | +12 49 7·5 |
| | 41 Virginis ··········· | 2·0 | 6·2 | +0·1 | 76 48 4·2 | ······ | ······ | ······ | ······ | + 0 53·6 | ············ | +13 16 28·6 |
| | ε Virginis ············ | 7·3 | 10·5 | +0·1 | 78 16 9·0 | ······ | ······ | ······ | ······ | + 0 56·4 | ············ | +11 48 21·0 |
| | 39 Comæ Berenices··· | 50·2 | 53·6 | +0·1 | 68 4 52·0 | ······ | ······ | ······ | ······ | + 0 39·2 | ············ | +21 59 55·2 |
| | α Ursæ Minoris S.P.· | 10·5 | 16·0 | −0·6 | 358 34 12·7 | ······ | ······ | ······ | ······ | − 0 41·6 | ············ | +88 28 4·7 |
| | A.S.C. 1516 ·········· | 51·9 | 55·2 | +0·1 | 77 40 53·6 | ······ | ······ | ······ | ······ | + 0 55·3 | ············ | +12 23 37·5 |
| | 59 Virginis ··········· | 34·8 | 38·0 | +0·1 | 79 49 36·5 | ······ | ······ | ······ | ······ | + 0 59·6 | ············ | +10 14 50·3 |
| | 21 Canum Venat. ···· | 37·4 | 40·1 | 0·0 | 39 34 38·8 | ······ | ······ | ······ | ······ | + 0 5·6 | ············ | +50 30 42·0 |
| | α Virginis············ | 35·7 | 37·7 | +0·4 | 100 23 37·1 | ······ | ······ | ······ | ······ | + 2 11·9 | ············ | −10 20 22·6 |
| | (*g*) 70 Virginis ··········· | 19·9 | 23·2 | +0·1 | 75 27 21·6 | 0·0 | ······ | ······ | ······ | + 0 51·2 | ············ | +14 37 13·6 |
| | 1 Bootis ··············· | 33·7 | 35·1 | +0·1 | 69 19 34·5 | ······ | 45·2 | 29·74 | 48·7 | + 0 41·1 | ············ | +20 45 10·8 |
| Apr. 30 | Sun South Limb ····· | 23·5 | 26·8 | +0·1 | 75 36 25·2 | ······ | 45·8 | 29·73 | 47·6 | + 0 51·4 | 3·4 | +14 28 10·0 |
| | Venus Centre ········ | 24·8 | 27·2 | +0·1 | 71 19 26·1 | ······ | ······ | ······ | ······ | + 0 44·2 | ············ | +18 45 16·3 |
| | Mars Centre ·········· | 17·6 | 20·2 | +0·1 | 70 40 19·0 | ······ | 45·1 | 29·72 | 47·8 | + 0 43·2 | ············ | +19 24 24·4 |

(*a*) At $11^h 55^m$.
(*b*) Wire III.
(*c*) $12^m$ before transit.
(*d*) $1^m 15^s$ after transit.
(*e*) Wire IV.; very faint.
(*f*) At $11^h 55^m$.
(*g*) Wire IV.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| May 1 | (*a*) Moon North Limb··· | 14·0 | 15·2 | +0 4 | 107 34 15·0 | + 0·7 | 42·9 | 29·90 | 48·3 | + 3 15·6 | 304 8 3·5 | −17 32 4·6 |
| | Mercury Centre······· | 39·4 | 42·2 | +0·1 | 79 3 40·9 | ······ | 46·9 | 29·83 | 48·5 | + 0 58·1 | ············ | +11 0 47·7 |
| May 2 | Sun North Limb····· | 20·0 | 24·2 | +0·1 | 74 28 22·2 | ······ | 47·5 | 29·85 | 48·5 | + 0 49·5 | ············ | +15 36 15·0 |
| | (*b*) Venus Centre ········ | 6·9 | 9·8 | +0·1 | 70 39 8·4 | + 0·7 | 48·2 | 29·82 | 48·8 | + 0 43·0 | ············ | +19 25 34·6 |
| | (*c*) Nadir··············· | 59·0<br>64·2 | 62·4<br>67·6 | −0·1 | 214 8 3·2 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
| | ······················ | 64·8<br>59·7 | 67·9<br>63·2 | −0·1 | 214 8 3·8 | ······ | ······ | ······ | ······ | ········· | ············ | ·············· |
| | 12 Virginis··········· | 11·2 | 15·0 | +0·1 | 78 56 13·2 | ······ | ······ | ······ | ······ | + 0 57·3 | ············ | +11 8 16·2 |
| | 7 Comæ Berenices··· | 33·5 | 36·8 | +0·1 | 65 15 35·3 | ······ | 50·0 | 29·74 | 51·2 | + 0 34·9 | ············ | +24 49 16·5 |
| | 11 Comæ Berenices·· | 55·9 | 57·8 | +0·1 | 71 24 56·9 | ······ | ······ | ······ | ······ | + 0 44·0 | ············ | +18 39 45·8 |
| | 23 Comæ Berenices·· | 0·1 | 3·0 | +0·1 | 66 35 1·7 | ······ | ······ | ······ | ······ | + 0 36·7 | ············ | +23 29 48·3 |
| | 31 Virginis··········· | 6·8 | 8·8 | +0·1 | 82 24 7·9 | ······ | ······ | ······ | ······ | + 1 4·7 | ············ | + 7 40 14·1 |
| | ε Ursæ Majoris········ | 26·2 | 28·5 | −0·1 | 33 16 27·3 | ······ | ······ | ······ | ······ | − 0 0·9 | ············ | +56 49 0·3 |
| | 39 Comæ Berenices·· | 51·8 | 54·2 | +0·1 | 68 4 53·1 | ······ | ······ | ······ | ······ | + 0 38·9 | ············ | +21 59 54·7 |
| | α Ursæ Minoris S.P. | 9·0 | 13·5 | −0·6 | 358 34 10·6 | ······ | ······ | ······ | ······ | − 0 41·3 | ············ | +88 28 2·6 |
| | (*b*) 59 Virginis··········· | 36·2 | 38·4 | +0·1 | 79 49 37·4 | + 0·1 | ······ | ······ | ······ | + 0 59·1 | ············ | +10 14 50·1 |
| | (*d*) 21 Canum Venat.···· | 36·3 | 39·0 | 0·0 | 39 34 37·6 | + 0·2 | ······ | ······ | ······ | + 0 5·5 | ············ | +50 30 43·4 |
| | (*d*) 2 Bootis··············· | 7·5 | 9·8 | +0·1 | 66 47 8·8 | + 0·1 | 50·3 | 29·76 | 50·8 | + 0 37·0 | ············ | +23 17 40·8 |
| | α Ursæ Minoris······· | 54·5 | 60·5 | −0·5 | 1 37 57·0 | ······ | 50·0 | 29·60 | 50·7 | − 0 36·6 | 3·2 | +88 28 6·0 |
| | (*e*) ························ | 8·6 | 14·2 | −0·5 | 1 37 10·9 | +47·4 | ······ | ······ | ······ | − 0 36·6 | ············ | +88 28 4·7 |
| | Mercury Centre······· | 51·8 | 54·3 | +0·1 | 78 13 53·1 | ······ | 49·6 | 29·58 | 51·0 | + 0 55·7 | ············ | +11 50 37·6 |
| May 3 | Sun South Limb····· | 17·1 | 20·7 | +0·1 | 74 42 19·0 | ······ | 49·3 | 29·58 | 51·0 | + 0 49·2 | ··· ········ | +15 22 18·2 |
| | (*d*) Venus Centre········ | 45·6 | 49·9 | +0·1 | 70 19 47·8 | + 0·3 | 51·0 | 29·56 | 51·3 | + 0 41·9 | ············ | +19 44 56·4 |
| | Mercury Centre······· | 56·1 | 60·5 | +0·1 | 77 23 58·4 | ······ | 52·5 | 29·50 | 51·2 | + 0 53·6 | ············ | +12 40 34·4 |
| May 4 | (*b*) Sun North Limb····· | 2·1 | 5·0 | +0·1 | 73 53 3·6 | + 0·5 | 52·2 | 29·51 | 51·7 | + 0 47·5 | ············ | +16 11 34·8 |
| May 6 | (*d*) Sun South Limb····· | 27·0 | 30·0 | +0·1 | 73 50 28·6 | + 0·2 | 52·8 | 28·70 | 51·9 | + 0 46·0 | ············ | +16 14 11·6 |
| May 9 | 7 Comæ Berenices··· | 32·0 | 35·0 | +0·1 | 65 15 33·6 | ······ | ······ | ······ | ······ | + 0 35·1 | ············ | +24 49 17·7 |
| | 11 Comæ Berenices·· | 52·8 | 54·3 | +0·1 | 71 24 53·6 | ······ | 47·2 | 29·76 | 48·4 | + 0 44·2 | ············ | +18 39 48·6 |
| | δ Corvi················· | 59·9 | 62·7 | +0·4 | 105 41 1·7 | ······ | ······ | ······ | ······ | + 2 52·6 | ············ | −15 38 27·9 |
| | 23 Comæ Berenices·· | 57·7 | 61·0 | +0·1 | 66 34 59·4 | ······ | ······ | ······ | ······ | + 0 37·0 | ············ | +23 29 50·0 |
| | 34 Virginis··········· | 21·0 | 24·8 | +0·1 | 77 15 23·0 | ······ | ······ | ······ | ······ | + 0 54·4 | ············ | +12 49 9·0 |
| | ε Ursæ Majoris······· | 24·0 | 26·0 | −0·1 | 33 16 24·9 | ······ | ······ | ······ | ······ | − 0 0·9 | ············ | +56 49 2·4 |
| | ε Virginis············· | 7·0 | 10·0 | +0·1 | 78 16 8·6 | ······ | ······ | ······ | ······ | + 0 56·4 | ············ | +11 48 21·4 |
| | 40 Comæ Berenices·· | 3·0 | 6·2 | +0·1 | 66 37 4·7 | ······ | ······ | ······ | ······ | + 0 37·1 | ······· ···· | +23 27 44·6 |
| | α Ursæ Minoris S.P. | 6·7 | 11·9 | −0·6 | 358 34 8·7 | ······ | ······ | ······ | ······ | − 0 41·6 | ············ | +88 28 0·7 |
| | (*d*) A.S.C. 1516·········· | 50·8 | 53·2 | +0·1 | 77 40 52·1 | 0·0 | ······ | ······ | ······ | + 0 55·3 | ············ | +12 23 39·0 |
| | 59 Virginis··········· | 35·9 | 37·6 | +0·1 | 79 49 36·8 | ······ | ······ | ······ | ······ | + 0 59·7 | ············ | +10 14 49·9 |
| | 21 Canum Venat.···· | 34·5 | 37·0 | 0·0 | 39 34 35·7 | ······ | 45·7 | 29·77 | 47·5 | + 0 5·6 | ············ | +50 30 45·1 |
| | α Virginis············· | 35·0 | 36·8 | +0·4 | 100 23 36·3 | ······ | ······ | ······ | ······ | + 2 12·0 | ············ | −10 20 21·9 |
| | 70 Virginis··········· | 19·0 | 22·2 | +0·1 | 75 27 20·7 | ······ | ······ | ······ | ······ | + 0 51·3 | ············ | +14 37 14·4 |
| | 2 Bootis··············· | 5·6 | 8·5 | +0·1 | 66 47 7·2 | ······ | ······ | ······ | ······ | + 0 37·4 | ············ | +23 17 41·8 |
| | 3 Bootis··············· | 15·2 | 16·0 | +0·1 | 63 35 15·7 | ······ | ······ | ······ | ······ | + 0 33·0 | ············ | +26 29 37·7 |
| | Groomb. 404 S.P.···· | 12·2 | 17·0 | −0·5 | 347 15 14·1 | ······ | ······ | ······ | ······ | − 1 2·3 | ············ | +77 8 45·4 |
| | 9 Bootis··············· | 57·1 | 58·9 | +0·1 | 61 48 58·1 | ······ | ······ | ······ | ······ | + 0 30·6 | ············ | +28 15 57·7 |
| | 3 Ursæ Minoris······ | 18·0 | 21·1 | −0·4 | 14 45 19·2 | ······ | ······ | ······ | ······ | − 0 20·5 | ············ | +75 20 27·7 |
| | A.S.C. 1621··········· | 56·1 | 58·2 | +0·1 | 70 25 57·3 | ······ | ······ | ······ | ······ | + 0 42·9 | ············ | +19 38 46·2 |
| | 18 Bootis·············· | 36·1 | 39·1 | +0·1 | 76 20 37·7 | ······ | ······ | ······ | ······ | + 0 53·0 | ············ | +13 43 55·7 |
| | Groomb. 506 S.P.···· | 34·2 | 38·0 | −0·5 | 351 2 35·6 | ······ | 45·2 | 29·78 | 46·6 | − 0 54·6 | ············ | +80 56 14·6 |

(*a*) Faint; at 20$^{h}$ 42$^{m}$ 30$^{s}$.
(*b*) Wire V.

(*c*) At 11$^{h}$ 55$^{m}$.
(*d*) Wire IV.

(*e*) 30$^{m}$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ |
| May 10 | (a) Nadir | 58·3<br>63·5 | 62·5<br>67·2 | −0·1 | 214 8 2·8 | ...... | ...... | ...... | ...... | ......... | 304 8 3·0 | ............... |
|  | ...................... | 63·5<br>58·1 | 68·1<br>63·2 | −0·1 | 214 8 3·2. | ...... | ...... | ...... | ...... | ......... | ............ | .... .......... |
| May 12 | γ Corvi | 35·3 | 37·7 | +0·4 | 106 42 36·9 | ...... | 47·8 | 29·70 | 49·4 | + 3 2·6 | 3·2 | −16 40 13·1 |
|  | (b) Nadir | 59·0<br>63·3 | 62·5<br>67·8 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ...................... | 63·9<br>59·4 | 67·6<br>63·0 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ϰ Draconis | 4·3 | 8·5 | −0·3 | 19 26 6·1 | ...... | ...... | ...... | ...... | − 0 15·2 | ............ | +70 39 35·5 |
|  | (c) α Ursæ Minoris S.P. | 54·4 | 60·0 | −0·6 | 358 34 56·6 | −47·4 | ...... | ...... | ...... | − 0 41·4 | ............ | +88 28 1·4 |
|  | ε Ursæ Majoris | 23·0 | 26·2 | −0·1 | 33 16 24·5 | ...... | ...... | ...... | ...... | − 0 0·9 | ............ | +56 49 2·8 |
|  | ε Virginis | 7·7 | 11·0 | +0·1 | 78 16 9·5 | ...... | ...... | ...... | ...... | + 0 56·2 | ............ | +11 48 20·7 |
|  | 40 Comæ Berenices | 4·2 | 7·2 | +0·1 | 66 37 5·8 | ...... | ...... | ...... | ...... | + 0 36·9 | ............ | +23 27 43·7 |
|  | (d) α Ursæ Minoris S.P. | 6·6 | 11·8 | −0·6 | 358 34 8·6 | ...... | ...... | ...... | ...... | − 0 41·5 | ............ | +88 28 0·7 |
|  | α Virginis | 38·0 | 39·0 | +0·4 | 100 23 38·9 | ...... | 47·2 | 29·71 | 49·0 | + 2 11·3 | ............ | −10 20 23·8 |
|  | (e) 2 Bootis | 4·1 | 6·0 | +0·1 | 66 47 5·2 | + 0·3 | ...... | ...... | ...... | + 0 37·2 | ............ | +23 17 43·7 |
|  | (e) τ Bootis | 6·0 | 7·6 | +0·1 | 71 50 6·9 | + 0·3 | ...... | ...... | ...... | + 0 44·9 | ............ | +18 14 34·3 |
|  | A.S.C. 1614 | 3·0 | 4·2 | +0·2 | 86 55 3·8 | ...... | ...... | ...... | ...... | + 1 16·4 | ............ | + 3 9 6·2 |
|  | 14 Bootis | 34·0 | 36·9 | +0·1 | 76 22 35·5 | ...... | 46·7 | 29·70 | 48·7 | + 0 52·7 | ............ | +13 41 58·2 |
|  | 18 Bootis | 35·5 | 37·8 | +0·1 | 76 20 36·8 | ...... | ...... | ...... | ...... | + 0 52·7 | ............ | +13 43 56·9 |
|  | 103 Virginis | 56·5 | 57·9 | +0·2 | 91 19 57·4 | ...... | ...... | ...... | ...... | + 1 30·0 | ........... | − 1 16 1·0 |
|  | A.S.C. 1636 | 8·2 | 10·2 | +0·2 | 83 32 9·4 | ...... | ...... | ...... | ...... | + 1 7·7 | ............ | + 6 32 9·3 |
|  | θ Bootis | 31·8 | 33·5 | 0·0 | 37 30 32·7 | ...... | ...... | ...... | ...... | + 0 3·4 | ............ | +52 34 50·3 |
|  | 26 Bootis | 29·2 | 30·7 | +0·1 | 67 7 30·1 | ...... | ...... | ...... | ...... | + 0 37·8 | ............ | +22 57 18·5 |
|  | σ Bootis | 6·3 | 8·1 | +0·1 | 59 39 7·3 | ...... | ...... | ...... | ...... | + 0 27·8 | ............ | +30 25 51·3 |
|  | 31 Bootis | 9·1 | 12·5 | +0·1 | 81 14 10·9 | ...... | ...... | ...... | ...... | + 1 2·5 | ............ | + 8 50 13·0 |
|  | 34 Bootis | 56·1 | 57·3 | +0·1 | 62 52 56·8 | ...... | ...... | ...... | ...... | + 0 31·9 | ............ | +27 11 57·7 |
|  | $\alpha^2$ Libræ | 45·6 | 45·1 | +0·4 | 105 25 45·8 | ...... | ...... | ...... | ...... | + 2 50·3 | ............ | −15 23 9·7 |
|  | 16 Libræ | 57·9 | 59·6 | +0·3 | 93 45 59·1 | ...... | ...... | ...... | ...... | + 1 39·0 | ............ | − 3 42 11·7 |
|  | ψ Bootis | 5·6 | 6·5 | +0·1 | 62 31 6·2 | ...... | ...... | ...... | ...... | + 0 31·5 | ............ | +27 33 48·7 |
|  | Piazzi II. 255 S.P. | 11·8 | 16·0 | −0·5 | 347 15 13·4 | ...... | 45·7 | 29·70 | 48·0 | − 1 2·1 | ............ | +77 8 44·9 |
|  | Groombridge 2213 | 28·1 | 30·9 | −0·5 | 5 32 29·0 | ...... | ...... | ...... | ...... | − 0 31·7 | ............ | +84 33 29·1 |
|  | 6 Serpentis | 38·1 | 39·3 | +0·2 | 88 46 38·9 | ...... | ...... | ...... | ...... | + 1 21·9 | ............ | + 1 17 25·6 |
|  | 9 Serpentis | 34·6 | 35·7 | +0·1 | 74 5 35·3 | ...... | ...... | ...... | ...... | + 0 48·8 | ............ | +15 59 2·3 |
|  | θ Coronæ Borealis | 26·9 | 27·9 | +0·1 | 58 11 27·5 | ...... | ...... | ...... | ...... | + 0 26·0 | ............ | +31 53 32·9 |
|  | μ Coronæ Borealis | 3·7 | 4·9 | +0·1 | 50 33 4·4 | ...... | ...... | ...... | ...... | + 0 17·2 | ............ | +39 32 4·8 |
|  | χ Serpentis | 13·8 | 16·2 | +0·1 | 76 43 15·1 | ...... | ...... | ...... | ...... | + 0 53·5 | ............ | +13 21 17·8 |
|  | 26 Serpentis | 58·1 | 60·0 | +0·1 | 72 18 59·1 | ...... | ...... | ...... | ...... | + 0 45·8 | ............ | +17 45 41·5 |
|  | μ Serpentis | 32·1 | 34·2 | +0·3 | 93 0 33·5 | ...... | ...... | ...... | ...... | + 1 36·2 | ............ | − 2 56 43·3 |
|  | ζ Ursæ Minoris | 22·6 | 24·8 | −0·4 | 11 49 23·3 | ...... | ...... | ...... | ...... | − 0 23·9 | ............ | +78 16 27·0 |
|  | $\beta^1$ Scorpii | 2·4 | 2·9 | +0·5 | 109 24 3·1 | ...... | ...... | ...... | ...... | + 3 38·0 | ............ | −19 22 14·7 |
|  | Groomb. 784 S.P. | 52·4 | 57·0 | −0·5 | 345 48 54·2 | ...... | 44·9 | 29·69 | 47·7 | − 1 5·4 | ............ | +75 42 22·4 |
|  | 19 Ursæ Minoris | 37·2 | 40·0 | −0·4 | 13 49 38·2 | ...... | ...... | ...... | ...... | − 0 21·6 | ............ | +76 16 9·8 |
| May 13 | Sun North Limb | 37·1 | 38·6 | +0·1 | 71 27 37·9 | ...... | 52·0 | 29·71 | 50·3 | + 0 43·8 | 3·2 | +18 37 4·7 |
|  | 34 Bootis | 57·1 | 58·5 | +0·1 | 62 52 57·9 | ...... | 50·1 | 29·79 | 50·8 | + 0 31·7 | ............ | +27 11 56·8 |
|  | 44 Bootis, following | 7·8 | 12·1 | 0·0 | 41 49 9·9 | ...... | ...... | ...... | ...... | + 0 7·8 | ............ | +48 16 8·7 |
|  | μ Bootis | 16·1 | 19·4 | +0·1 | 52 9 17·8 | ...... | ...... | ...... | ...... | + 0 18·8 | ............ | +37 55 49·8 |
|  | $\gamma^2$ Ursæ Minoris | 5·9 | 9·1 | −0·3 | 17 42 7·2 | ...... | ...... | ...... | ...... | − 0 17·1 | ............ | +72 23 36·3 |
|  | θ Coronæ Borealis | 27·5 | 29·2 | +0·1 | 58 11 28·5 | ...... | ...... | ...... | ...... | + 0 25·8 | ............ | +31 53 32·1 |
|  | μ Coronæ Borealis | 4·0 | 7·0 | +0·1 | 50 33 5·6 | ...... | ...... | ...... | ...... | + 0 17·0 | ............ | +39 32 3·8 |
|  | ι Serpentis | 59·4 | 61·7 | +0·1 | 69 54 0·6 | ...... | ...... | ...... | ...... | + 0 41·6 | ............ | +20 10 44·2 |
|  | (f) β Serpentis | 35·4 | 37·5 | +0·1 | 74 9 36·5 | + 0·5 | 51·0 | 29·78 | 50·8 | + 0 48·5 | ............ | +15 55 0·9 |

(a) At $12^h 50^m$.
(b) At $12^h 20^m$.

(c) $30^m$ before transit.
(d) On meridian.

(e) Wire V.
(f) $1^m$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ″ | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| May 16 | Sun North Limb | 30·2 | 33·5 | +0·1 | 70 44 32·0 | ...... | 52·6 | 30·17 | 52·8 | + 0 43·3 | 304 8 3·2 | +19 20 11·1 |
| May 17 | Sun South Limb | 23·2 | 26·1 | +0·1 | 71 2 24·6 | ...... | 46·8 | 30·06 | 51·4 | + 0 44·1 | ............ | +19 2 17·7 |
|  | Venus Centre | 36·0 | 41·0 | +0·1 | 66 48 38·7 | ...... | 47·7 | 30·04 | 50·6 | + 0 37·6 | ............ | +23 16 10·1 |
|  | (*a*) Moon North Limb | 32·4 | ...... | +0·1 | 81 56 35·0 | +12·3 | ...... | ...... | ...... | + 1 4·2 | ............ | + 8 7 34·9 |
|  | (*b*) ........................ | ...... | 49·2 | +0·1 | 81 56 46·5 | + 0·5 | ...... | ...... | ...... | + 1 4·2 | ............ | + 8 7 35·2 |
|  | (*c*) ........................ | 54·5 | 59·8 | +0·1 | 81 56 57·1 | −12·0 | 49·4 | 29·97 | 51·7 | + 1 4·2 | ............ | + 8 7 37·1 |
| May 18 | Sun North Limb | 24·8 | 26·2 | +0·1 | 70 17 25·4 | ...... | 49·0 | 29·73 | 50·8 | + 0 42·3 | ............ | +19 47 18·7 |
|  | Mercury Centre | 17·4 | 21·1 | +0·1 | 67 21 19·2 | ...... | ...... | ...... | ...... | + 0 37·9 | ............ | +22 43 29·3 |
|  | (*d*) Venus Centre | 12·5 | 16·0 | +0·1 | 66 38 14·5 | + 0·2 | 49·7 | 29·72 | 50·8 | + 0 36·8 | ............ | +23 26 34·9 |
| May 20 | (*d*) Sun South Limb | 12·1 | 15·0 | +0·1 | 70 23 13·8 | + 0·2 | 55·5 | 29·17 | 52·0 | + 0 41·1 | ............ | +19 41 31·3 |
| May 21 | Sun North Limb | 12·5 | 15·2 | +0·1 | 69 39 14·0 | ...... | 49·9 | 29·27 | 50·2 | + 0 40·6 | ............ | +20 25 31·8 |
|  | (*e*) α Ursæ Minoris S.P. | 6·9 | 11·9 | −0·6 | 358 34 8·9 | − 1·8 | ...... | ...... | ...... | − 0 41·0 | ............ | +88 27 59·7 |
|  | (*d*) σ Virginis | 19·0 | 21·3 | +0·2 | 83 46 20·2 | 0·0 | 46·5 | 29·29 | 48·9 | + 1 7·4 | ............ | + 6 17 58·8 |
|  | α Virginis | 38·2 | 41·1 | +0·4 | 100 23 40·2 | ...... | ...... | ...... | ...... | + 2 9·7 | ............ | −10 20 23·5 |
|  | 70 Virginis | 18·9 | 22·2 | +0·1 | 75 27 20·5 | ...... | ...... | ...... | ...... | + 0 50·4 | ............ | +14 37 15·5 |
|  | (*f*) Moon North Limb | 46·7 | ...... | +0·4 | 106 23 47·7 | + 9·1 | ...... | ...... | ...... | + 2 57·5 | ............ | −16 21 27·9 |
|  | (*g*) ...... ........................ | ...... | 57·4 | +0·4 | 106 23 57·4 | + 0·2 | ...... | ...... | ...... | + 2 57·5 | ............ | −16 21 28·7 |
|  | (*h*) ........................ | 5·8 | 6·8 | +0·4 | 106 24 6·8 | −10·4 | ...... | ...... | ...... | + 2 57·5 | ...... ..... | −16 21 27·5 |
|  | 7 Bootis | 2·9 | 5·6 | +0·1 | 71 22 4·2 | ...... | ...... | ...... | ...... | + 0 43·6 | ............ | +18 42 38·6 |
|  | A.S.C. 1614 | 1·9 | 4·6 | +0·2 | 86 55 3·4 | ...... | ...... | ...... | ...... | + 1 15·5 | ............ | + 3 9 7·5 |
|  | 15 Bootis | 49·1 | 51·8 | +0·1 | 79 13 50·6 | ...... | ...... | ...... | ...... | + 0 57·6 | ............ | +10 50 38·2 |
|  | λ Virginis | 45·0 | 46·2 | +0·4 | 102 41 45·9 | ...... | ...... | ...... | ...... | + 2 25·3 | ............ | −12 38 44·8 |
|  | (*d*) 103 Virginis | 55·7 | 58·8 | +0·2 | 91 19 57·5 | 0·0 | ...... | ...... | ...... | + 1 29·0 | ............ | − 1 16 0·1 |
|  | A.S.C. 1636 | 8·7 | 11·1 | +0·2 | 83 32 9·9 | ...... | 45·2 | 29·32 | 48·4 | + 1 7·0 | ............ | + 6 32 9·5 |
|  | γ Bootis | 10·4 | 14·1 | +0·1 | 51 5 12·3 | ...... | ...... | ...... | ...... | + 0 17·5 | ............ | +38 59 56·6 |
|  | σ Bootis | 4·9 | 6·5 | +0·1 | 59 39 5·9 | ...... | ...... | ...... | ...... | + 0 27·5 | ............ | +30 25 53·0 |
|  | 31 Bootis | 8·1 | 11·8 | +0·1 | 81 14 10·1 | ...... | ...... | ...... | ...... | + 1 1·9 | ............ | + 8 50 14·4 |
|  | 34 Bootis | 55·8 | 56·3 | +0·1 | 62 52 56·3 | ...... | ...... | ...... | ...... | + 0 31·6 | ............ | +27 11 58·5 |
|  | (*d*) 109 Virginis | 37·6 | 39·9 | +0·2 | 87 30 38·9 | 0·0 | ...... | ...... | ...... | + 1 17·3 | ............ | + 2 33 30·2 |
|  | $\alpha^2$ Libræ | 47·5 | 46·6 | +0·4 | 105 25 47·4 | ...... | ...... | ...... | ...... | + 2 48·3 | ............ | −15 23 9·3 |
|  | 16 Libræ | 58·6 | 60·6 | +0·3 | 93 45 59·8 | ...... | ...... | ...... | ...... | + 1 37·9 | ............ | − 3 42 11·3 |
|  | ψ Bootis | 3·6 | 5·0 | +0·1 | 62 31 4·3 | ...... | ...... | ...... | ...... | + 0 31·1 | ............ | +27 33 51·0 |
|  | Piazzi II. 255 S.P. | 9·7 | 13·1 | −0·5 | 347 15 10·9 | ...... | 45·0 | 29·32 | 47·9 | − 1 1·4 | ............ | +77 8 43·1 |
|  | Groombridge 2213 | 25·9 | 28·6 | −0·5 | 5 32 26·6 | ...... | ...... | ...... | ...... | − 0 31·4 | ............ | +84 33 31·2 |
|  | 7 Serpentis | 29·4 | 31·8 | +0·1 | 76 56 30·6 | ...... | ...... | ...... | ...... | + 0 53·3 | ............ | +13 8 2·5 |
|  | 9 Serpentis | 33·9 | 35·8 | +0·1 | 74 5 34·9 | ...... | ...... | ...... | ...... | + 0 47·6 | ............ | +15 59 3·9 |
|  | β Coronæ Borealis | 55·5 | 57·2 | +0·1 | 60 25 56·4 | ...... | ...... | ...... | ...... | + 0 28·4 | ............ | +29 39 1·6 |
|  | δ Serpentis (North) | 23·7 | 26·0 | +0·1 | 79 0 24·9 | ...... | ...... | ...... | ...... | + 0 57·2 | ............ | +11 4 4·3 |
|  | μ Coronæ Borealis | 2·2 | 5·0 | +0·1 | 50 33 3·9 | ...... | ...... | ...... | ...... | + 0 17·0 | ............ | +39 32 5·5 |
|  | χ Serpentis | 12·0 | 15·6 | +0·1 | 76 43 14·0 | ...... | ...... | ...... | ..... | + 0 52·8 | ............ | +13 21 19·6 |
|  | (*i*) 26 Serpentis | 56·2 | 57·0 | +0·1 | 72 18 56·8 | + 0·6 | ...... | ...... | ...... | + 0 45·2 | ...... ..... | +17 45 43·8 |
| May 22 | (*k*) 10 Draconis | 17·9 | 20·1 | −0·2 | 24 35 18·8 | + 1·3 | 50·3 | 29·45 | 52·0 | − 0 9·6 | ............ | +65 30 15·9 |
|  | A.S.C. 1614 | 2·0 | 4·5 | +0·2 | 86 55 3·4 | ...... | ...... | ...... | ..... | + 1 15·2 | ............ | + 3 9 7·8 |
|  | 15 Bootis | 49·0 | 52·0 | +0·1 | 79 13 50·7 | ...... | ...... | ...... | ...... | + 0 57·4 | ............ | +10 50 38·3 |
|  | λ Virginis | 46·5 | 46·2 | +0·4 | 102 41 46·6 | ...... | ...... | ...... | ...... | + 2 24·8 | ............ | −12 38 45·0 |
|  | 103 Virginis | 57·5 | 59·4 | +0·2 | 91 19 58·7 | ...... | ...... | ...... | ...... | + 1 28·7 | ............ | − 1 16 1·0 |
|  | A.S.C. 1636 | 9·8 | 11·4 | +0·2 | 83 32 10·6 | ...... | ...... | ...... | ...... | + 1 6·8 | ............ | + 6 32 9·0 |
|  | θ Bootis | 28·6 | 32·4 | 0·0 | 37 30 30·5 | ...... | ...... | ...... | ...... | + 0 3·4 | ............ | +52 34 52·5 |
|  | γ Bootis | 9·9 | 13·2 | +0·1 | 51 5 11·6 | ...... | ...... | ...... | ...... | + 0 17·5 | ............ | +38 59 57·3 |
|  | (*l*) σ Bootis | 4·0 | 6·1 | +0·1 | 59 39 5·3 | 0·0 | ...... | ...... | ...... | + 0 27·4 | ............ | +30 25 53·7 |
|  | 16 Libræ | 58·7 | 60·0 | +0·3 | 93 45 59·6 | ...... | 48·3 | 29·44 | 50·2 | + 1 37·6 | ............ | − 3 42 10·8 |

(*a*) At 10$^{h}$ 3$^{m}$.
(*b*) At 10$^{h}$ 3$^{m}$ 46$^{s}$.
(*c*) At 10$^{h}$ 4$^{m}$ 30$^{s}$.
(*d*) Wire IV.
(*e*) At 13$^{h}$ 8$^{m}$ 15$^{s}$.
(*f*) At 13$^{h}$ 38$^{m}$.
(*g*) At 13$^{h}$ 38$^{m}$ 43$^{s}$.
(*h*) At 13$^{h}$ 39$^{m}$ 31$^{s}$.
(*i*) 1$^{m}$ after transit.
(*k*) At 13$^{h}$ 48$^{m}$ 20$^{s}$.
(*l*) Wire III.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ′ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| May 22 | 44 Bootis following.. | 5·8 | 8·7 | 0·0 | 41 49 7·3 | ...... | ...... | ...... | ...... | + 0 7·7 | 304 8 3·2 | +48 16 11·4 |
| | A.S.C. 1720.......... | 4·2 | 5·1 | +0·1 | 64 22 4·6 | ...... | ...... | ...... | ...... | + 0 33·5 | ............ | +25 42 48·3 |
| | 3 Serpentis ........... | 41·1 | 42·8 | +0·2 | 84 32 42·3 | ...... | ...... | ...... | ...... | + 1 9·4 | ............ | + 5 31 34·7 |
| | 7 Serpentis ........... | 31·1 | 32·9 | +0·1 | 76 56 32·0 | ... .. | ...... | ...... | ...... | + 0 53·2 | ............ | +13 8 1·2 |
| | 9 Serpentis ........... | 34·8 | 36·1 | +0·1 | 74 5 35·5 | ...... | ...... | ...... | ...... | + 0 48·1 | ............ | +15 59 2·8 |
| | β Coronæ Borealis... | 54·9 | 57·8 | +0·1 | 60 25 56·4 | ...... | ...... | ...... | ...... | + 0 24·8 | ............ | +29 39 1·6 |
| | δ Serpentis (North).. | 23·8 | 27·2 | +0·1 | 79 0 25·6 | ...... | 47·6 | 29·45 | 49·6 | + 0 57·2 | ............ | +11 4 3·6 |
| May 23 | Mercury Centre ...... | 51·1 | 55·1 | +0·1 | 65 23 53·2 | ...... | 50·0 | 29·46 | 51·0 | + 0 34·7 | 3·2 | +24 40 58·5 |
| | γ Corvi ............... | 38·2 | 38·8 | +0·4 | 106 42 39·1 | ...... | 50·9 | 29·50 | 51·8 | + 3 0·3 | ............ | −16 40 13·0 |
| | (a) Nadir ............ | 58·8<br>64·4 | 62·3<br>67·2 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ..................... | 63·7<br>58·9 | 67·9<br>63·1 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ϰ Draconis ........... | 3·0 | 7·0 | −0·3 | 19 26 4·6 | ...... | ...... | ...... | ...... | − 0 15·0 | ............ | +70 39 36·8 |
| | (b) α Ursæ Minoris S.P. | 51·4 | 56·4 | −0·6 | 358 34 53·3 | −47·4 | ...... | ...... | ...... | − 0 40·9 | ............ | +88 27 58·6 |
| | σ Virginis............ | 17·0 | 20·0 | +0·2 | 83 46 18·6 | ...... | 50·6 | 29·53 | 51·4 | + 1 7·3 | ............ | + 6 18 0·5 |
| | (c) α Ursæ Minoris S.P. | 50·2 | 56·0 | −0·6 | 358 34 52·5 | −47·4 | ...... | ...... | ...... | − 0 40·9 | ............ | +88 27 57·8 |
| | (d) η Ursæ Majoris...... | 10·3 | 14·0 | 0·0 | 39 59 12·2 | 0·0 | ...... | ...... | ...... | + 0 5·9 | ............ | +50 6 8·3 |
| | 7 Bootis .............. | 3·0 | 5·2 | +0·1 | 71 22 4·0 | ...... | ...... | ...... | ...... | + 0 43·6 | ............ | +18 42 38·8 |
| | (e) 109 Virginis ......... | 37·2 | 39·2 | +0·2 | 87 30 38·4 | 0·0 | ...... | ...... | ...... | + 1 17·1 | ............ | + 2 33 30·9 |
| | α² Libræ .............. | 47·3 | 47·4 | +0·4 | 105 25 47·7 | ...... | 50·0 | 29·55 | 51·0 | + 2 47·9 | ............ | −15 23 9·2 |
| | (f) Moon South Limb... | 28·1 | ...... | +0·5 | 114 48 28·9 | + 4·7 | ...... | ...... | ...... | + 5 36·8 | ............ | −24 48 44·0 |
| | (g) ...................... | ...... | 34·2 | +0·5 | 114 48 34·7 | + 0·3 | ...... | ...... | ...... | + 5 36·8 | ............ | −24 48 45·4 |
| | (h) ...................... | 39·7 | 40·0 | +0·5 | 114 48 40·5 | − 5·9 | 48·3 | 29·55 | 50·7 | + 5 36·8 | ............ | −24 48 45·0 |
| | ζ Ursæ Minoris ....... | 19·0 | 21·6 | −0·4 | 11 49 20·0 | ...... | ...... | ...... | ...... | − 0 23·6 | ............ | +78 16 30·0 |
| May 26 | Sun South Limb..... | 1·0 | 4·5 | +0·1 | 69 14 2·9 | ...... | 53·5 | 29·47 | 52·7 | + 0 39·9 | 3·4 | +20 50 43·8 |
| | Venus Centre .... .... | 56·7 | 60·2 | +0·1 | 65 39 58·6 | ...... | 55·6 | 29·46 | 53·5 | + 0 34·7 | ............ | +24 24 53·3 |
| May 27 | Sun North Limb ..... | 9·5 | 13·0 | +0·1 | 68 32 11·2 | ...... | 58·5 | 29·50 | 56·2 | + 0 38·6 | ............ | +21 32 36·8 |
| | 35 Bootis.............. | 39·5 | 41·3 | +0·1 | 72 26 40·4 | ...... | 51·6 | 29·56 | 52·5 | + 0 45·2 | ............ | +17 38 1·0 |
| | 1 Serpentis ........... | 53·2 | 55·4 | +0·2 | 89 35 54·4 | .... . | ...... | ...... | ...... | + 1 23·0 | ............ | + 0 28 9·2 |
| | A.S.C. 1720.......... | 3·0 | 6·0 | +0·1 | 64 22 4·4 | ...... | ...... | ...... | ...... | + 0 33·4 | ............ | +25 42 48·8 |
| | 3 Serpentis ........... | 39·9 | 42·9 | +0·2 | 84 32 41·8 | ...... | ...... | ...... | ...... | + 1 9·2 | ............ | + 5 31 35·6 |
| | 7 Serpentis ........... | 28·8 | 32·2 | +0·1 | 76 56 30·5 | ...... | ...... | ...... | ...... | + 0 53·0 | ............ | +13 8 3·1 |
| | μ Bootis ............... | 11·0 | 15·0 | +0·1 | 52 9 13·2 | ...... | ...... | ...... | ...... | + 0 18·6 | ............ | +37 55 54·8 |
| | (i) ι Draconis............ | 17·5 | 19·8 | −0·1 | 30 34 18·6 | + 0·3 | ...... | ...... | ...... | − 0 3·6 | ............ | +59 31 11·3 |
| | 15 Serpentis .......... | 43·2 | 44·9 | +0·1 | 71 53 44·3 | ...... | 51·3 | 29·55 | 52·0 | + 0 44·4 | ............ | +18 10 57·9 |
| | χ Serpentis............ | 12·0 | 15·8 | +0·1 | 76 43 14·1 | ...... | ...... | ...... | ...... | + 0 52·6 | ............ | +13 21 19·9 |
| | 26 Serpentis.......... | 55·8 | 58·6 | +0·1 | 72 18 57·4 | ...... | ...... | ...... | ...... | + 0 45·0 | ............ | +17 45 44·2 |
| | ω Serpentis ........... | 18·4 | 22·4 | +0·2 | 87 23 20·7 | ...... | ...... | ...... | ...... | + 1 16·6 | ............ | + 2 40 49·3 |
| | ϰ Coronæ Borealis ... | 10·8 | 14·9 | +0·1 | 53 56 12·9 | ...... | ...... | ...... | ...... | + 0 20·6 | ............ | +36 8 53·1 |
| | A.S.C. 1817 .......... | 13·1 | 16·0 | +0·1 | 69 18 14·8 | ...... | ...... | ...... | ...... | + 0 40·4 | ............ | +20 46 31·4 |
| | ζ Ursæ Minoris ...... | 16·9 | 20·0 | −0·4 | 11 49 18·1 | ...... | ...... | ...... | ...... | − 0 23·5 | ............ | +78 16 32·0 |
| | 3 Herculis ............ | 57·5 | 61·0 | +0·2 | 85 11 59·3 | ...... | ...... | ...... | ...... | + 1 13·0 | ............ | + 4 52 14·3 |
| | β¹ Scorpii.............. | 4·5 | 4·9 | +0·5 | 109 24 5·3 | ...... | ...... | ...... | ...... | + 3 34·5 | ............ | −19 22 13·2 |
| | Groomb. 784 S.P. ... | 48·2 | 54·0 | −0·5 | 345 48 50·7 | ...... | ...... | ...... | ...... | − 1 4·3 | ............ | +75 42 19·8 |
| | 16 Scorpii ............ | 41·7 | 43·8 | +0·3 | 98 11 42·9 | ...... | ...... | ...... | ...... | + 1 57·4 | ............ | − 8 8 13·7 |
| | 18 Scorpii ............ | 24·7 | 27·4 | +0·3 | 98 0 26·3 | ...... | ...... | ... .. | ...... | + 1 56·4 | ............ | − 7 56 56·1 |
| | (k) Juno .................. | 56·0 | 58·2 | +0·3 | 93 17 57·6 | ...... | ...... | ...... | ...... | + 1 35·8 | ............ | − 3 14 6·8 |
| | α Scorpii .............. | 43·6 | 45·2 | +0·5 | 116 3 45·0 | ...... | 50·5 | 29·56 | 51·8 | + 6 24·9 | ............ | −26 4 43·3 |
| May 28 | Sun South Limb ..... | 49·0 | 51·2 | +0·1 | 68 53 50·3 | ...... | 57·6 | 29·60 | 55·2 | + 0 39·3 | 3·6 | +21 10 57·2 |
| | (l) Venus Centre ........ | 25·3 | 28·1 | +0·1 | 65 32 26·6 | + 0·2 | 56·7 | 29·60 | 55·8 | + 0 34·6 | ............ | +24 32 25·4 |
| | δ Ursæ Majoris ....... | 46·6 | 51·0 | −0·1 | 32 10 48·6 | ...... | 55·0 | 29·61 | 55·0 | − 0 1·9 | ............ | +57 54 40·1 |

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(a) At $12^h\ 20^m$.
(b) $30^m$ before transit.
(c) $30^m$ after transit.
(d) Wire III.
(e) Wire V.
(f) At $15^h\ 34^m\ 48^s$.
(g) At $15^h\ 35^m\ 32^s$.
(h) At $15^h\ 36^m\ 25^s$.
(i) Wire IV.
(k) Extremely faint.
(l) Wire II.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| May 28 | (a) Nadir ............... | 59·6<br>64·1 | 63·8<br>68·1 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | 304 8 3·6 | ............... |
| | ....................... | 63·1<br>59·2 | 68·3<br>63·2 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | χ Draconis............. | 2·1 | 6·2 | −0·3 | 19 26 3·8 | ...... | ...... | ...... | ...... | − 0 14·9 | ............ | +70 39 37·9 |
| | (b) α Ursæ Minoris S.P. | 51·0 | 56·8 | −0·6 | 358 34 53·3 | −47·4 | ...... | ...... | ...... | − 0 40·6 | ............ | +88 27 58·5 |
| | ε Ursæ Majoris ....... | 19·3 | 23·2 | −0·1 | 33 16 21·1 | ...... | ...... | ...... | ...... | − 0 0·9 | ............ | +56 49 6·6 |
| | 40 Comæ Berenices.. | 3·3 | 7·2 | +0·1 | 66 37 5·2 | ...... | ...... | ...... | ...... | + 0 36·3 | ............ | +23 27 45·3 |
| | α Ursæ Minoris S.P. | 2·1 | 7·9 | −0·6 | 358 34 4·5 | ...... | ...... | ...... | ...... | − 0 40·8 | ............ | +88 27 56·9 |
| | σ Virginis............. | 17·4 | 20·2 | +0·2 | 83 46 18·9 | ...... | 53·0 | 29·61 | 54·5 | + 1 7·2 | ............ | + 6 18 0·7 |
| | α Virginis............. | 38·8 | 41·5 | +0·4 | 100 23 40·6 | ...... | ...... | ...... | ...... | + 2 9·3 | ............ | −10 20 23·1 |
| | (c) α Ursæ Minoris S.P. | 50·6 | 55·0 | −0·6 | 358 34 52·2 | −47·4 | ...... | ...... | ...... | − 0 40·8 | ............ | +88 27 57·2 |
| | (d) 84 Virginis........... | 4·6 | 7·3 | +0·2 | 85 44 6·2 | 0·0 | ...... | ...... | ...... | + 1 12·0 | ............ | + 4 20 8·6 |
| | τ Bootis................. | 5·8 | 7·1 | +0·1 | 71 50 6·5 | ...... | ...... | ...... | ...... | + 0 44·2 | ............ | +18 14 36·1 |
| | 7 Bootis ................ | 2·8 | 4·9 | +0·1 | 71 22 3·8 | ...... | ...... | ...... | ...... | + 0 43·4 | ............ | +18 42 39·6 |
| | 14 Bootis........ ...... | 32·2 | 36·0 | +0·1 | 76 22 34·4 | ...... | ...... | ...... | ...... | + 0 51·9 | ............ | +13 42 0·5 |
| | 18 Bootis................ | 33·7 | 36·2 | +0·1 | 76 20 35·0 | ...... | ...... | ...... | ...... | + 0 51·8 | ............ | +13 44 0·0 |
| | θ Bootis................. | 27·6 | 30·1 | 0·0 | 37 30 28·8 | ...... | 52·9 | 29·60 | 53·9 | + 0 3·4 | ............ | +52 34 54·6 |
| | γ Bootis................. | 8·0 | 12·0 | +0·1 | 51 5 10·1 | ...... | ...... | ...... | ...... | + 0 17·4 | ............ | +38 59 59·3 |
| | 35 Bootis................ | 39·7 | 41·8 | +0·1 | 72 26 40·7 | ...... | ...... | ...... | ...... | + 0 45·2 | ............ | +17 38 0·9 |
| | A.S.C. 1698 .......... | 10·0 | 12·2 | +0·1 | 73 3 11·3 | ...... | ...... | ...... | ...... | + 0 46·2 | ............ | +17 1 29·3 |
| | 3 Serpentis............ | 40·8 | 42·5 | +0·2 | 84 32 42·0 | ...... | ...... | ...... | ...... | + 1 9·0 | ............ | + 5 31 35·8 |
| | μ Bootis................. | 12·0 | 15·0 | +0·1 | 52 9 13·7 | ...... | ...... | ...... | ...... | + 0 18·6 | ............ | +37 55 54·5 |
| | (e) A.S.C 1752 .......... | 4·0 | 5·5 | +0·4 | 106 45 5·1 | − 0·2 | 53·0 | 29·58 | 53·7 | + 3 0·3 | ............ | −16 42 38·4 |
| | 15 Serpentis........... | 42·9 | 45·2 | +0·1 | 71 53 44·3 | ...... | ...... | ...... | ...... | + 0 44·2 | ............ | +18 10 58·3 |
| | ι Serpentis ............. | 56·8 | 59·0 | +0·1 | 69 53 58·1 | ...... | ...... | ...... | ...... | + 0 41·1 | ............ | +20 10 47·6 |
| | 25 Serpentis........... | 24·0 | 26·5 | +0·2 | 91 22 25·3 | ...... | ...... | ...... | ...... | + 1 28·6 | ............ | − 1 18 27·1 |
| | ω Serpentis............ | 19·9 | 22·8 | +0·2 | 87 23 21·7 | ...... | ...... | ...... | ...... | + 1 16·4 | ............ | + 2 40 48·7 |
| | χ Coronæ Borealis.... | 11·2 | 15·0 | +0·1 | 53 56 13·1 | ...... | ...... | ...... | ...... | + 0 20·6 | ............ | +36 8 53·1 |
| | A.S.C. 1817 ........... | 13·4 | 16·2 | +0·1 | 69 18 15·0 | ...... | ...... | ...... | ...... | + 0 40·3 | ............ | +20 46 31·5 |
| | ζ Ursæ Minoris....... | 16·2 | 19·0 | −0·4 | 11 49 17·2 | ...... | ...... | ...... | ...... | − 0 23·5 | ............ | +78 16 33·1 |
| | 3 Herculis............. | 57·9 | 60·7 | +0·2 | 85 11 59·4 | ...... | ...... | ...... | ...... | + 1 10·8 | ............ | + 4 52 16·6 |
| | (f) β¹ Scorpii............. | 8·1 | 8·2 | +0·5 | 109 24 8·7 | 0·0 | ...... | ...... | ...... | + 3 34·2 | ............ | −19 22 16·1 |
| | 47 Serpentis.......... | 2·2 | 5·0 | +0·1 | 81 7 3·5 | ...... | ...... | ...... | ...... | + 1 1·3 | ............ | + 8 57 22·0 |
| | 10 Herculis............ | 32·4 | 34·8 | +0·1 | 66 10 33·7 | ...... | ...... | ...... | ...... | + 0 35·9 | ............ | +23 54 17·2 |
| | α Scorpii ............... | 43·0 | 44·1 | +0·5 | 116 3 44·1 | ...... | 52·0 | 29·60 | 53·1 | + 6 23·3 | ............ | −26 4 40·6 |
| June 6 | (g) Sun North Limb .... | 1·9 | 4·9 | +0·1 | 67 10 3·5 | + 0·4 | 55·8 | 29·80 | 57·2 | + 0 37·2 | 3·2 | +22 54 45·3 |
| | (h) Mercury Centre ...... | 46·7 | 50·8 | +0·1 | 65 6 48·7 | 0·0 | ...... | ...... | ...... | + 0 34·4 | ............ | +24 58 3·3 |
| | (i) Venus Centre......... | 10·7 | 15·0 | +0·1 | 65 34 13·0 | + 0·1 | ...... | ...... | ...... | + 0 35·0 | ............ | +24 30 38·3 |
| | δ Ursæ Majoris....... | 45·1 | 50·5 | −0·1 | 32 10 47·6 | ...... | 55·0 | 29·83 | 57·0 | − 0 2·0 | ............ | +57 54 40·8 |
| | (k) α Ursæ Minoris S.P. | 48·8 | 54·8 | −0·6 | 358 34 51·2 | −47·4 | ...... | ...... | ...... | − 0 41·0 | ............ | +88 27 56·4 |
| | ε Ursæ Majoris ....... | 17·5 | 23·5 | −0·1 | 33 16 20·3 | ...... | ...... | ...... | ...... | − 0 0·9 | ............ | +56 49 7·0 |
| | 41 Comæ Berenices.. | 36·0 | 38·5 | +0·1 | 61 36 37·2 | ...... | ...... | ...... | ...... | + 0 29·8 | ............ | +28 28 19·4 |
| | α Ursæ Minoris S.P. | 1·2 | 8·0 | −0·6 | 358 34 4·1 | ...... | ...... | ...... | ...... | − 0 41·0 | ............ | +88 27 56·7 |
| | 20 Canum Venat..... | 50·8 | 56·0 | +0·1 | 48 40 53·4 | ...... | 55·8 | 29·86 | 57·8 | + 0 14·9 | ............ | +41 24 18·1 |
| | (l) α Ursæ Minoris S.P. | 49·4 | 55·2 | −0·6 | 358 34 51·7 | −47·4 | ...... | ...... | ...... | − 0 41·0 | ............ | +88 27 56·9 |
| | τ Bootis ............. .. | 3·2 | 6·0 | +0·1 | 71 50 4·7 | ...... | ...... | ...... | ...... | + 0 44·3 | ............ | +18 14 37·4 |
| | 10 Draconis........... | 14·9 | 18·8 | −0·2 | 24 35 16·6 | ...... | ...... | ...... | ...... | − 0 9·6 | ............ | +65 30 19·4 |
| | (f) 14 Bootis............... | 31·0 | 34·2 | +0·1 | 76 22 32·9 | 0·0 | 56·1 | 29·87 | 57·8 | + 0 52·0 | ............ | +13 42 1·5 |
| | 20 Bootis............... | 46·6 | 49·9 | +0·1 | 73 2 48·5 | ...... | ...... | ...... | ...... | + 0 46·3 | ............ | +17 1 51·6 |
| | A.S.C. 1632 (North) | 27·3 | 30·8 | +0·1 | 80 54 29·2 | ...... | ...... | ...... | ...... | + 1 1·0 | ............ | + 9 9 56·2 |
| | 35 Bootis............... | 38·0 | 41·0 | +0·1 | 72 26 39·5 | ...... | ...... | ...... | ...... | + 0 45·4 | ............ | +17 38 1·5 |
| | 44 Bootis, following | 1·4 | 6·0 | 0·0 | 41 49 3·8 | ...... | ...... | ...... | ...... | + 0 7·8 | ............ | +48 16 14·8 |
| | 4 Serpentis ............ | 37·9 | 39·9 | +0·2 | 89 6 39·0 | ...... | ...... | ...... | ...... | + 1 21·9 | ............ | + 0 57 25·5 |
| | 10 Serpentis.......... | 36·6 | 39·1 | +0·2 | 87 40 38·0 | ...... | 54·0 | 29·88 | 57·0 | + 1 17·8 | ............ | + 2 23 30·6 |

(a) At $12^h$ $20^m$.
(b) $30^m$ before transit.
(c) $30^m$ after transit.

(d) Wire IV.
(e) Wire V.; faint.
(f) Wire III.

(g) Wire V.
(h) Tremulous; Wire II.
(i) Tremulous; Wire IV.

(k) $30^m$ before transit.
(l) $30^m$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| June 6 | 15 Serpentis | 41·7 | 43·1 | +0·1 | 71 53 42·6 | ...... | ...... | ...... | ...... | + 0 44·6 | 304 8 3·2 | +18 10 59·2 |
|  | ι Serpentis | 53·8 | 56·8 | +0·1 | 69 53 55·5 | ...... | ...... | ...... | ...... | + 0 41·5 | ............ | +20 10 49·4 |
|  | 25 Serpentis | 23·2 | 25·8 | +0·2 | 91 22 24·5 | ...... | ...... | ...... | ...... | + 1 29·3 | ............ | − 1 18 27·4 |
|  | ω Serpentis | 17·8 | 21·0 | +0·2 | 87 23 19·7 | ...... | ...... | ...... | ...... | + 1 17·0 | ............ | + 2 40 49·7 |
|  | ϰ Coronæ Borealis | 8·2 | 12·3 | +0·1 | 53 56 10·3 | ...... | ...... | ...... | ...... | + 0 20·8 | ............ | +36 8 55·3 |
|  | A.S.C. 1817 | 11·3 | 14·1 | +0·1 | 69 18 12·9 | ...... | ...... | ...... | ...... | + 0 40·6 | ............ | +20 46 32·9 |
|  | 50 Libræ | 12·6 | 15·8 | +0·3 | 98 1 14·4 | ...... | ...... | ...... | ...... | + 1 57·0 | ............ | − 7 57 45·0 |
|  | $\beta^1$ Scorpii | 5·1 | 6·0 | +0·5 | 109 24 6·1 | ...... | ...... | ...... | ...... | + 3 35·7 | ............ | −19 22 15·4 |
|  | Groomb. 784 S.P. | 47·4 | 52·1 | −0·5 | 345 48 49·3 | ...... | ...... | ...... | ...... | − 1 4·7 | ............ | +75 42 18·2 |
|  | 16 Scorpii | 40·0 | 41·7 | +0·3 | 98 11 41·0 | ...... | ...... | ...... | ...... | + 1 58·1 | ............ | − 8 8 12·7 |
|  | (a) Juno | 48·8 | 51·2 | +0·3 | 92 55 50·2 | ...... | 52·9 | 29·88 | 56·4 | + 1 35·0 | ............ | − 2 51 58·8 |
| June 7 | Sun South Limb | 28·1 | 32·0 | +0·1 | 67 35 30·1 | ...... | 56·8 | 29·98 | 56·8 | + 0 38·0 | ............ | +22 29 18·3 |
|  | (b) Mercury Centre | 25·1 | 30·8 | +0·1 | 65 18 28·2 | + 0·1 | ...... | ...... | ...... | + 0 34·8 | ............ | +24 46 23·3 |
|  | (c) Venus Centre | 56·7 | 62·5 | +0·1 | 65 37 59·9 | + 0·6 | 54·3 | 29·98 | 56·8 | + 0 35·4 | ............ | +24 26 50·5 |
| June 8 | Sun North Limb | 17·9 | 21·1 | +0·1 | 66 58 19·9 | ...... | 60·0 | 30·11 | 58·7 | + 0 37·0 | 2·8 | +23 6 29·1 |
|  | α Ursæ Minoris S.P. | 1·2 | 7·2 | −0·6 | 358 34 3·7 | ...... | 57·6 | 30·10 | 59·3 | − 0 41·2 | ............ | +88 27 56·5 |
|  | 20 Canum Venat. | 51·5 | 57·0 | +0·1 | 48 40 54·2 | ...... | ...... | ...... | ...... | + 0 15·0 | ............ | +41 24 16·8 |
|  | 10 Draconis | 14·0 | 18·2 | −0·2 | 24 35 15·9 | ...... | ...... | ...... | ...... | − 0 9·7 | ............ | +65 30 19·8 |
|  | (d) Nadir | 58·9<br>64·2 | 61·2<br>66·5 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ..................... | 64·1<br>59·3 | 67·5<br>62·5 | −0·1 | 214 8 2·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | 15 Bootis | 46·7 | 50·0 | +0·1 | 79 13 48·6 | ...... | 56·5 | 30·10 | 58·6 | + 0 57·9 | ............ | +10 50 39·5 |
|  | 20 Bootis | 46·4 | 49·7 | +0·1 | 73 2 48·5 | ...... | ...... | ...... | ...... | + 0 46·6 | ............ | +17 1 50·9 |
|  | A.S.C. 1632 (North) | 26·2 | 29·8 | +0·1 | 80 54 28·2 | ...... | ...... | ...... | ...... | + 1 1·3 | ............ | + 9 9 56·5 |
|  | 109 Virginis | 35·1 | 38·0 | +0·2 | 87 30 36·7 | ...... | ...... | ...... | ...... | + 1 17·6 | ............ | + 2 33 31·7 |
|  | 1 Serpentis | 50·8 | 53·0 | +0·2 | 89 35 52·0 | ...... | ...... | ...... | ...... | + 1 23·7 | ............ | + 0 28 10·3 |
|  | 4 Serpentis | 36·0 | 38·0 | +0·2 | 89 6 37·0 | ...... | ...... | ...... | ...... | + 1 22·2 | ............ | + 0 57 26·8 |
|  | 10 Serpentis | 34·9 | 37·7 | +0·2 | 87 40 36·4 | ...... | ...... | ...... | ...... | + 1 18·0 | ............ | + 2 23 31·6 |
|  | 14 Serpentis | 8·0 | 12·0 | +0·2 | 90 6 10·0 | ...... | ...... | ...... | ...... | + 1 25·3 | ............ | − 0 2 9·3 |
|  | 22 Serpentis | 33·1 | 35·0 | +0·1 | 71 6 33·9 | ...... | ...... | ...... | ...... | + 0 43·5 | ............ | +18 58 8·6 |
|  | 25 Serpentis | 23·0 | 25·0 | +0·2 | 91 22 23·8 | ...... | ...... | ...... | ...... | + 1 29·5 | ............ | − 1 18 27·3 |
|  | ε Serpentis | 55·0 | 58·7 | +0·2 | 85 6 56·8 | ...... | ...... | ...... | ...... | + 1 11·2 | ............ | + 4 57 18·0 |
|  | ϱ Serpentis | 28·9 | 31·5 | +0·1 | 68 37 29·9 | ...... | ...... | ...... | ...... | + 0 39·6 | ............ | +21 27 16·5 |
|  | 50 Libræ | 12·3 | 16·0 | +0·3 | 98 1 14·3 | ...... | ...... | ...... | ...... | + 1 57·3 | ............ | − 7 57 45·6 |
|  | π Serpentis | 6·3 | 10·0 | +0·1 | 66 50 8·2 | ...... | ...... | ...... | ...... | + 0 37·1 | ............ | +23 14 40·7 |
|  | υ Herculis | 40·2 | 42·4 | 0·0 | 43 36 41·0 | ...... | ...... | ...... | ...... | + 0 9·7 | ............ | +46 28 35·3 |
|  | $\varkappa^1$ Herculis | 27·1 | 30·2 | +0·1 | 72 36 28·5 | ...... | ...... | ...... | ...... | + 0 45·9 | ............ | +17 28 11·6 |
|  | Juno | 1·5 | 5·0 | +0·3 | 92 53 3·9 | ...... | 56·2 | 30·11 | 57·4 | + 1 34·9 | ............ | − 2 49 12·8 |
| June 9 | Sun North Limb | 57·2 | 60·1 | +0·1 | 66 52 59·1 | ...... | 54·8 | 30·09 | 57·0 | + 0 37·2 | 2·7 | +23 11 49·6 |
|  | (b) Mercury Centre | 53·8 | 58·0 | +0·1 | 65 44 56·0 | + 0·1 | ...... | ...... | ...... | + 0 35·7 | ............ | +24 19 54·1 |
|  | Venus Centre | 43·1 | 47·7 | +0·1 | 65 47 45·8 | ...... | 53·5 | 30·08 | 56·5 | + 0 35·8 | ............ | +24 17 4·3 |
| June 10 | Sun South Limb | 38·9 | 41·5 | +0·1 | 67 19 40·3 | ...... | 54·7 | 29·99 | 56·0 | + 0 37·8 | ............ | +22 45 7·8 |
|  | Mercury Centre | 35·0 | 38·2 | +0·1 | 65 59 36·8 | ...... | ...... | ...... | ...... | + 0 35·9 | ............ | +24 5 13·2 |
|  | Venus Centre | 40·1 | 42·1 | +0·1 | 65 53 41·4 | ...... | 54·2 | 29·97 | 55·4 | + 0 35·7 | ............ | +24 11 8·8 |
| June 11 | Sun North Limb | 40·1 | 41·5 | +0·1 | 66 43 41·1 | ...... | 55·7 | 30·03 | 56·7 | + 0 36·9 | ............ | +23 21 7·9 |
| June 12 | (f) Moon North Limb | 16·9 | ...... | +0·1 | 74 31 19·1 | + 3·4 | ...... | ...... | ...... | + 0 48·6 | ............ | +15 33 14·8 |
|  | (g) ........................ | ...... | 27·9 | +0·1 | 74 31 25·5 | − 5·6 | ...... | ...... | ...... | + 0 48·6 | ............ | +15 33 17·4 |
|  | (h) ........................ | 27·6 | 32·2 | +0·1 | 74 31 29·8 | −13·6 | 60·8 | 30·10 | 59·0 | + 0 48·6 | ............ | +15 33 21·1 |
|  | α Ursæ Minoris | 2·5 | 7·9 | −0·5 | 1 38 5·0 | ...... | 54·0 | 30·01 | 57·4 | − 0 36·8 | ............ | +88 27 57·7 |

(a) Extremely faint.
(b) Wire V.

(c) 1$^{m}$ after transit.
(d) At 14$^{h}$ 0$^{m}$.

(e) At 8$^{h}$ 50$^{m}$ 23$^{s}$.
(f) At 8$^{h}$ 51$^{m}$ 4$^{s}$.
(g) At 8$^{h}$ 51$^{m}$ 44$^{s}$.
} faint.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| June 13 | Sun South Limb .... | 29·5 | 33·0 | +0·1 | 67 7 31·0 | ...... | 64·8 | 29·96 | 60·5 | + 0 36·7 | 304 8 2·7 | +22 57 18·2 |
|  | (a) Venus Centre......... | 38·2 | 42·2 | +0·1 | 66 15 40·2 | + 0·3 | 68·0 | 29·92 | 62·8 | + 0 35·2 | ............ | +23 49 10·2 |
|  | (b) Moon North Limb... | 28·6 | ...... | +0·1 | 80 14 30·7 | + 3·5 | ...... | ...... | ...... | + 0 58·2 | ............ | + 9 49 53·5 |
|  | (c) ......................... | ...... | 46·2 | +0·1 | 80 14 44·3 | − 5·9 | ...... | ...... | ...... | + 0 58·2 | ............ | + 9 49 49·3 |
|  | (d) ......................... | 44·5 | 48·5 | +0·1 | 80 14 46·6 | − 13·2 | 68·0 | 29·88 | 63·8 | + 0 58·2 | ............ | + 9 49 54·3 |
|  | 41 Comæ Berenices... | 34·1 | 37·5 | +0·1 | 61 36 35·7 | ...... | ...... | ...... | ...... | + 0 29·2 | ............ | +28 28 21·0 |
|  | α Ursæ Minoris S.P. | 59·7 | 65·8 | −0·6 | 358 34 2·4 | ...... | 66·2 | 29·87 | 63·7 | − 0 40·2 | ............ | +88 27 56·3 |
|  | (e) 20 Canum Venat. .... | 50·5 | 56·3 | +0·1 | 48 40 53·4 | + 0·6 | ...... | ...... | ...... | + 0 14·6 | ............ | +41 24 17·3 |
|  | η Ursæ Majoris....... | 5·5 | 11·3 | 0·0 | 39 59 8·5 | ...... | ...... | ...... | ...... | + 0 5·8 | ............ | +50 6 11·6 |
|  | (f) 20 Bootis............... | 47·5 | 51·1 | +0·1 | 73 2 49·7 | + 0·1 | ...... | ...... | ...... | + 0 45·3 | ............ | +17 1 50·8 |
|  | A.S.C. 1632.......... | 28·8 | 31·9 | +0·1 | 80 54 30·5 | ...... | 65·8 | 29·86 | 63·5 | + 0 59·7 | ............ | + 9 9 55·7 |
|  | 1 Serpentis ............ | 53·3 | 57·2 | +0·2 | 89 35 55·3 | ...... | ...... | ...... | ...... | + 1 21·7 | ............ | + 0 28 8·9 |
|  | 4 Serpentis ............ | 37·3 | 41·2 | +0·2 | 89 6 39·2 | ...... | 63·5 | 29·88 | 63·2 | + 1 20·4 | ............ | + 0 57 26·3 |
|  | 10 Serpentis......... | 36·0 | 39·1 | +0·2 | 87 40 37·7 | ...... | ...... | ...... | ...... | + 1 16·3 | ............ | + 2 23 31·9 |
|  | γ Coronæ Borealis... | 2·0 | 4·1 | +0·1 | 63 17 2·8 | ...... | ...... | ...... | ...... | + 0 31·5 | ............ | +26 47 51·6 |
|  | β Serpentis ............ | 31·0 | 34·9 | +0·1 | 74 9 33·1 | ...... | ...... | ...... | ...... | + 0 47·4 | ............ | +15 55 5·4 |
|  | 36 Serpentis.......... | 32·0 | 35·4 | +0·3 | 92 40 33·9 | ...... | ...... | ...... | ...... | + 1 32·1 | ............ | − 2 36 40·1 |
|  | ϱ Serpentis ............ | 28·5 | 32·5 | +0·1 | 68 37 30·2 | ...... | ...... | ...... | ...... | + 0 38·8 | ............ | +21 27 16·9 |
|  | 50 Libræ............... | 16·0 | 19·9 | +0·3 | 98 1 18·1 | ...... | ...... | ...... | ...... | + 1 54·6 | ............ | − 7 57 46·8 |
|  | π Serpentis ............ | 6·0 | 10·8 | +0·1 | 66 50 8·5 | ...... | ...... | ...... | ...... | + 0 36·2 | ............ | +23 14 41·2 |
|  | υ Herculis............. | 39·1 | 42·0 | 0·0 | 43 36 40·3 | ...... | ...... | ...... | ...... | + 0 9·4 | ............ | +46 28 36·2 |
|  | 9 Herculis ............. | 37·8 | 40·8 | +0·2 | 84 38 39·7 | ...... | ...... | ...... | ...... | + 1 8·4 | ............ | + 5 25 37·8 |
|  | A.S.C. 1865 .......... | 25·5 | 28·0 | +0·3 | 93 37 26·7 | ...... | ...... | ...... | ...... | + 1 35·5 | ............ | − 3 33 36·3 |
|  | 19 Ursæ Minoris...... | 25·9 | 31·0 | −0·4 | 13 49 28·1 | ...... | ...... | ...... | ...... | − 0 20·9 | ............ | +76 16 18·7 |
|  | 51 Serpentis.......... | 36·5 | 39·7 | +0·1 | 75 40 38·1 | ...... | ...... | ...... | ...... | + 0 50·0 | ............ | +14 23 57·8 |
|  | λ Ophiuchi ............ | 10·9 | 15·2 | +0·2 | 87 44 13·4 | ...... | ...... | ...... | ...... | + 1 16·4 | ............ | + 2 19 56·1 |
|  | 29 Herculis............ | 42·0 | 46·0 | +0·1 | 78 14 44·1 | ...... | ...... | ...... | ...... | + 0 54·6 | ............ | +11 49 47·2 |
|  | ζ Ophiuchi............. | 56·6 | 60·0 | +0·4 | 100 17 59·0 | ...... | ...... | ...... | ...... | + 2 6·9 | ............ | −10 14 40·0 |
|  | 16 Ophiuchi.......... | 16·9 | 20·1 | +0·2 | 88 45 18·6 | ...... | ...... | ...... | ...... | + 1 19·2 | ............ | + 1 18 48·1 |
|  | 45 Herculis........... | 17·1 | 21·0 | +0·2 | 84 32 18·9 | ...... | 64·2 | 29·87 | 63·2 | + 1 8·1 | ............ | + 5 31 58·9 |
| June 14 | Sun North Limb...... | 41·9 | 46·0 | +0·1 | 66 32 44·4 | ...... | 62·5 | 29·80 | 61·2 | + 0 35·8 | 2·6 | +23 32 5·6 |
|  | (g) Mercury Centre...... | 16·2 | 20·8 | +0·1 | 67 5 18·5 | + 0·2 | 67·0 | 29·79 | 65·0 | + 0 36·3 | ............ | +22 59 30·8 |
|  | (h) Venus Centre......... | 20·6 | 25·1 | +0·1 | 66 24 23·0 | + 0·5 | ...... | ...... | ...... | + 0 35·3 | ............ | +23 40 27·0 |
|  | (i) Nadir ............... | 57·8<br>63·9 | 61·7<br>66·9 | −0·1 | 214 8 2·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ........................ | 63·9<br>58·3 | 67·3<br>62·7 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | (k) 41 Comæ Berenices.. | 34·2 | 36·0 | +0·1 | 61 36 35·0 | 0·0 | ...... | ...... | ...... | + 0 29·4 | ............ | +28 28 21·4 |
|  | α Ursæ Minoris S.P. | 0·1 | 6·0 | −0·6 | 358 34 2·6 | ...... | 60·9 | 29·76 | 62·2 | − 0 40·5 | ............ | +88 27 56·3 |
|  | η Ursæ Majoris....... | 5·9 | 9·9 | 0·0 | 39 59 8·0 | ...... | ...... | ...... | ...... | + 0 5·8 | ............ | +50 6 12·0 |
|  | 3 Herculis ............. | 54·2 | 58·1 | +0·2 | 85 11 56·1 | ...... | ...... | ...... | ...... | + 1 10·1 | ............ | + 4 52 19·6 |
|  | π Serpentis ............ | 5·0 | 8·9 | +0·1 | 66 50 7·0 | ...... | ...... | ...... | ...... | + 0 36·4 | ............ | +23 14 42·4 |
|  | υ Herculis ............. | 37·6 | 40·0 | 0·0 | 43 36 38·6 | ...... | ...... | ...... | ...... | + 0 9·5 | ............ | +46 28 37·7 |
|  | $\chi^1$ Herculis ............ | 26·1 | 29·0 | +0·1 | 72 36 27·4 | ...... | ...... | ...... | ...... | + 0 45·2 | ............ | +17 28 13·2 |
|  | 16 Scorpii.............. | 40·8 | 42·2 | +0·3 | 98 11 41·5 | ...... | ...... | ...... | ...... | + 1 56·5 | ............ | − 8 8 12·2 |
|  | (l) 18 Scorpii.............. | 24·0 | 27·0 | +0·3 | 98 0 25·7 | − 0·1 | ...... | ...... | ...... | + 1 55·5 | ............ | − 7 56 55·3 |
|  | ε Ophiuchi ............ | 3·3 | 5·0 | +0·3 | 94 22 4·1 | ...... | 57·4 | 29·75 | 58·6 | + 1 39·2 | ............ | − 4 18 17·5 |
|  | τ Herculis ............ | 44·7 | 48·0 | 0·0 | 43 23 46·5 | ...... | ...... | ...... | ..... | + 0 9·3 | ............ | +46 41 30·0 |
|  | 51 Serpentis.......... | 34·8 | 37·3 | +0·1 | 75 40 36·1 | ...... | ...... | ...... | ...... | + 0 50·5 | ............ | +14 23 59·2 |
|  | λ Ophiuchi ............ | 7·5 | 11·2 | +0·2 | 87 44 9·7 | ...... | ...... | ...... | ...... | + 1 17·1 | ............ | + 2 19 59·0 |
|  | 29 Herculis............ | 40·1 | 44·2 | +0·1 | 78 14 42·3 | ...... | ...... | ...... | ...... | + 0 55·2 | ............ | +11 49 48·3 |
|  | ζ Ophiuchi............. | 54·0 | 56·5 | +0·4 | 100 17 56·0 | ...... | ...... | ...... | ...... | + 2 8·3 | ............ | −10 14 38·5 |
|  | η Herculis ............. | 37·5 | 40·1 | +0·1 | 50 51 38·7 | ...... | ...... | ...... | ...... | + 0 17·1 | ............ | +39 13 30·0 |
|  | 45 Herculis........... | 14·9 | 18·8 | +0·2 | 84 32 16·7 | ...... | 56·7 | 29·75 | 57·6 | + 1 8·8 | ............ | + 5 32 0·3 |

(a) 54$^{s}$ after transit.
(b) At 9$^{h}$ 47$^{m}$ 5$^{s}$. } faint.
(c) At 9$^{h}$ 47$^{m}$ 43$^{s}$. } faint.
(d) At 9$^{h}$ 48$^{m}$ 13$^{s}$. } faint.

(e) Wire I.
(f) Wire II.
(g) At 7$^{h}$ 16$^{m}$ 36$^{s}$.
(h) 1$^{m}$ after transit.

(i) At 7$^{h}$ 50$^{m}$.
(k) Wire III.
(l) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| June 15 | Sun South Limb | 23·9 | 26·0 | +0·1 | 67 1 24·8 | ...... | 59·5 | 29·79 | 59·6 | + 0 36·7 | 304 8 2·6 | +23 3 24·3 |
| | (*a*) Venus Centre | 44·3 | 48·5 | +0·1 | 66 33 46·7 | + 0·4 | 62·9 | 29·77 | 61·2 | + 0 35·8 | ............ | +23 31 2·9 |
| | $\chi$ Bootis | 47·8 | 51·0 | +0·1 | 60 19 49·5 | ...... | 54·9 | 29·66 | 56·6 | + 0 28·1 | ............ | +29 45 8·2 |
| | (*b*) $\gamma^2$ Ursæ Minoris | 56·2 | 59·5 | −0·3 | 17 41 57·3 | 0·0 | ...... | ...... | ...... | − 0 16·8 | ............ | +72 23 45·3 |
| | 22 Serpentis | 31·7 | 33·8 | +0·1 | 71 6 32·6 | ...... | ...... | ...... | ...... | + 0 43·0 | ............ | +18 58 10·2 |
| | $\beta$ Serpentis | 29·9 | 32·5 | +0·1 | 74 9 31·4 | ...... | ...... | ...... | ...... | + 0 47·9 | ............ | +15 55 6·5 |
| | (*c*) $\delta$ Coronæ Borealis | 37·8 | 38·9 | +0·1 | 63 31 38·2 | + 0·3 | ...... | ...... | ...... | + 0 32·2 | ............ | +26 33 15·1 |
| | $\varrho$ Serpentis | 27·0 | 29·1 | +0·1 | 68 37 27·8 | ...... | ...... | ...... | ...... | + 0 39·1 | ............ | +21 27 18·9 |
| | 5 Herculis | 14·2 | 16·8 | +0·1 | 71 49 15·7 | ...... | 54·0 | 29·64 | 55·0 | + 0 44·1 | ............ | +18 15 26·0 |
| | $\varkappa^1$ Herculis | 26·1 | 28·1 | +0·1 | 72 36 27·0 | ...... | ...... | ...... | ...... | + 0 45·4 | ............ | +17 28 13·4 |
| | 48 Serpentis | 1·0 | 3·9 | +0·1 | 73 0 2·5 | ...... | ...... | ...... | ...... | + 0 46·0 | ............ | +17 4 37·3 |
| | 17 Herculis | 43·8 | 46·0 | +0·1 | 66 33 45·2 | ...... | ...... | ...... | ...... | + 0 36·3 | ............ | +23 31 4·3 |
| | $\tau$ Herculis | 44·5 | 47·2 | 0·0 | 43 23 46·0 | ...... | ...... | ...... | ...... | + 0 9·3 | ............ | +46 41 30·5 |
| | 51 Serpentis | 34·5 | 36·0 | +0·1 | 75 40 35·3 | ...... | ...... | ...... | ...... | + 0 50·6 | ............ | +14 23 59·9 |
| | 30 Herculis | 17·1 | 19·9 | +0·1 | 47 51 18·4 | ...... | ...... | ...... | ...... | + 0 14·0 | ............ | +42 13 53·4 |
| | (*d*) 29 Herculis | 37·5 | 40·8 | +0·1 | 78 14 39·3 | + 0·1 | ...... | ...... | ...... | + 0 55·4 | ............ | +11 49 51·0 |
| | 15 Draconis | 5·5 | 9·2 | −0·3 | 20 59 7·2 | ...... | 53·9 | 29·66 | 54·3 | − 0 13·4 | ............ | +69 6 32·0 |
| June 16 | Sun North Limb | 27·8 | 29·9 | +0·1 | 66 27 28·6 | ...... | 55·0 | 29·71 | 56·6 | + 0 36·1 | ............ | +23 37 21·1 |
| June 17 | Sun South Limb | 55·7 | 59·1 | +0·1 | 66 56 57·2 | ...... | 53·9 | 29·88 | 54·9 | + 0 37·1 | ............ | +23 7 51·5 |
| June 18 | Sun North Limb | 50·5 | 54·1 | +0·1 | 66 23 52·6 | ...... | 57·8 | 29·63 | 56·8 | + 0 35·8 | 2·5 | +23 40 57·3 |
| | $\alpha$ Bootis | 26·0 | 29·0 | +0·1 | 70 4 27·7 | ...... | ...... | ...... | ...... | + 0 41·2 | ............ | +20 0 16·8 |
| | (*e*) Moon North Limb | 41·9 | ...... | +0·5 | 109 36 42·3 | + 8·3 | ...... | ...... | ...... | + 3 35·7 | ............ | −19 35 0·6 |
| | (*f*) ........................ | ...... | 47·0 | +0·5 | 109 36 47·1 | + 0·7 | ...... | ...... | ...... | + 3 35·7 | ............ | −19 34 57·8 |
| | (*g*) ........................ | 55·6 | 55·9 | +0·5 | 109 36 56·0 | − 6·8 | 55·1 | 29·54 | 56·8 | + 3 35·7 | ............ | −19 34 59·2 |
| | (*h*) Nadir | 58·3<br>63·0 | 62·9<br>68·0 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ........................ | 61·8<br>57·5 | 67·7<br>62·3 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | $\beta$ Coronæ Borealis | 47·1 | 51·1 | +0·1 | 60 25 49·1 | ...... | 51·2 | 29·56 | 55·0 | + 0 28·3 | ............ | +29 39 8·3 |
| | $\alpha$ Coronæ Berealis | 57·8 | 60·0 | +0·1 | 62 49 59·0 | ...... | ...... | ...... | ...... | + 0 31·4 | ............ | +27 14 55·3 |
| | (*d*) 5 Herculis | 12·9 | 15·9 | +0·1 | 71 49 14·6 | + 0·3 | ...... | ...... | ...... | + 0 44·2 | ............ | +18 15 26·6 |
| June 21 | (*d*) Mercury Centre | 45·5 | 49·9 | +0·1 | 69 11 47·5 | 0·0 | 61·5 | 29·22 | 59·0 | + 0 38·9 | 2·5 | +20 52 59·3 |
| | Venus Centre | 55·1 | 58·8 | +0·1 | 67 43 57·2 | ...... | ...... | ...... | ...... | + 0 36·8 | ............ | +22 20 51·7 |
| | $\alpha$ Scorpii | 50·0 | 52·0 | +0·5 | 116 3 51·7 | ...... | 57·0 | 29·25 | 57·9 | + 6 14·7 | ............ | −26 4 40·7 |
| June 22 | Sun South Limb | 3·2 | 6·7 | +0·1 | 66 53 5·3 | ...... | 58·8 | 29·36 | 57·8 | + 0 36·0 | 2·5 | +23 11 44·4 |
| | (*i*) Mercury Centre | 22·0 | 25·1 | +0·1 | 69 29 23·7 | − 0·1 | 60·6 | 29·36 | 59·0 | + 0 39·6 | ............ | +20 35 22·5 |
| | Venus Centre | 50·0 | 53·2 | +0·1 | 67 57 52·0 | ...... | 59·8 | ...... | ...... | + 0 37·5 | ............ | +22 6 56·2 |
| | (*k*) Nadir | 57·8<br>63·0 | 61·7<br>67·2 | −0·1 | 214 8 2·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ........................ | 63·0<br>58·0 | 67·9<br>63·0 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | A.S.C. 1698 | 6·2 | 8·6 | +0·1 | 73 3 7·8 | ...... | 54·0 | 29·39 | 56·0 | + 0 45·7 | ............ | +17 1 32·2 |
| | $\chi$ Bootis | 46·7 | 49·8 | +0·1 | 60 19 48·4 | ...... | ...... | ...... | ...... | + 0 27·9 | ............ | +29 45 9·4 |
| | $\gamma^2$ Ursæ Minoris | 53·5 | 57·0 | −0·3 | 17 41 54·7 | ...... | ...... | ...... | ...... | − 0 16·7 | ............ | +72 23 47·7 |
| | 14 Serpentis | 7·6 | 11·4 | +0·2 | 90 6 9·5 | ...... | ...... | ...... | ...... | + 1 23·8 | ............ | − 0 2 7·6 |
| | 22 Serpentis | 31·7 | 33·2 | +0·1 | 71 6 32·3 | ...... | ...... | ...... | ...... | + 0 42·7 | ............ | +18 58 10·7 |
| | $\lambda$ Serpentis | 19·1 | 22·1 | +0·1 | 82 13 20·9 | ...... | ...... | ...... | ...... | + 1 3·1 | ............ | + 7 51 1·7 |
| | 36 Serpentis | 29·0 | 31·2 | +0·3 | 92 40 30·3 | ...... | ...... | ...... | ...... | + 1 32·5 | ............ | − 2 36 37·1 |
| | 5 Herculis | 13·5 | 16·4 | +0·1 | 71 49 15·2 | ...... | 52·6 | 29·38 | 54·0 | + 0 43·8 | ............ | +18 15 26·7 |
| | 48 Serpentis | 59·2 | 63·0 | +0·1 | 73 0 1·2 | ...... | ...... | ...... | ...... | + 0 45·7 | ............ | +17 4 38·8 |
| | 18 Scorpii | 23·5 | 26·2 | +0·3 | 98 0 25·1 | ...... | ...... | ...... | ...... | + 1 55·2 | ............ | − 7 56 54·6 |

(*a*) $1^{\mathrm{m}}$ after transit.
(*b*) Wire III.
(*c*) Wire I.
(*d*) Wire V.
(*e*) At $14^{\mathrm{h}}\ 15^{\mathrm{m}}\ 45^{\mathrm{s}}$.
(*f*) At $14^{\mathrm{h}}\ 16^{\mathrm{m}}\ 25^{\mathrm{s}}$.
(*g*) At $14^{\mathrm{h}}\ 17^{\mathrm{m}}\ 5^{\mathrm{s}}$.
(*h*) At $14^{\mathrm{h}}\ 30^{\mathrm{m}}$.
(*i*) Wire IV.
(*k*) At $14^{\mathrm{h}}\ 35^{\mathrm{m}}$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| June 22 | 17 Herculis | 41·5 | 44·9 | +0·1 | 66 33 43·5 | ...... | ...... | ...... | ...... | + 0 36·1 | 304 8 2·5 | +23 31 6·1 |
| | 19 Ursæ Minoris | 22·0 | 26·4 | −0·4 | 13 49 23·9 | ...... | ...... | ...... | ...... | − 0 21·0 | ........... | +76 16 22·8 |
| | α Scorpii | 46·1 | 48·0 | +0·5 | 116 3 47·7 | ...... | 52·2 | ...... | ...... | + 6 20·3 | ........... | −26 4 42·3 |
| | (a) λ Ophiuchi | 8·5 | 12·1 | +0·2 | 87 44 10·6 | 0·0 | ...... | ...... | ...... | + 1 16·9 | ........... | + 2 19 58·2 |
| | 29 Herculis | 38·9 | 42·0 | +0·1 | 78 14 40·6 | ...... | ...... | ...... | ...... | + 0 55·0 | ........... | +11 49 50·1 |
| | 15 Draconis | 2·0 | 6·0 | −0·3 | 20 59 3·8 | ...... | ...... | ...... | ...... | − 0 13·3 | ........... | +69 6 35·2 |
| | (a) 43 Herculis | 57·8 | 60·9 | +0·1 | 81 11 59·1 | 0·0 | ...... | ...... | ...... | + 1 1·0 | ........... | + 8 52 25·6 |
| | 47 Herculis | 54·4 | 57·0 | +0·2 | 82 32 56·2 | ...... | ...... | ...... | ...... | + 1 4·0 | ........... | + 7 31 25·5 |
| | 51 Herculis | 19·0 | 21·8 | +0·1 | 65 9 20·6 | ...... | ...... | ...... | ...... | + 0 34·2 | ........... | +24 55 30·9 |
| | 54 Herculis | 20·5 | 22·5 | +0·1 | 71 23 21·9 | ...... | ...... | ...... | ...... | + 0 43·2 | ........... | +18 41 20·6 |
| | 59 Herculis | 1·0 | 4·8 | +0·1 | 56 17 2·7 | ...... | ...... | ...... | ...... | + 0 23·1 | ........... | +33 47 59·9 |
| | 60 Herculis | 49·5 | 53·0 | +0·1 | 77 6 51·1 | ...... | ...... | ...... | ...... | + 0 52·9 | ........... | +12 57 41·7 |
| | Groomb. 931 S.P. | 38·9 | 44·1 | −0·5 | 348 20 40·9 | ...... | 52·0 | 29·38 | 54·0 | − 0 58·4 | ........... | +78 14 16·8 |
| | Groombridge 2427 | 58·8 | 62·3 | −0·4 | 14 35 0·1 | ...... | ...... | ...... | ...... | − 0 20·2 | ........... | +75 30 45·8 |
| | π Herculis | 40·7 | 42·9 | +0·1 | 53 5 41·8 | ...... | ...... | ...... | ...... | + 0 19·6 | ........... | +36 59 24·3 |
| | 69 Herculis | 29·7 | 31·7 | +0·1 | 52 37 30·4 | ...... | ...... | ...... | ...... | + 0 19·0 | ........... | +37 27 36·3 |
| | 70 Herculis | 11·8 | 15·0 | +0·1 | 65 25 13·5 | ...... | ...... | ...... | ...... | + 0 34·6 | ........... | +24 39 37·6 |
| | ϱ Herculis following | 27·3 | 29·9 | +0·1 | 52 47 28·3 | ...... | ...... | ...... | ...... | + 0 19·2 | ........... | +37 17 38·2 |
| | A.S.C. 2008 | 17·5 | 21·4 | +0·2 | 87 13 19·9 | ...... | ...... | ...... | ...... | + 1 15·6 | ........... | + 2 50 50·2 |
| | (a) 78 Herculis | 24·4 | 26·1 | +0·1 | 61 33 25·6 | + 0·1 | ...... | ...... | ...... | + 0 29·5 | ........... | +28 31 30·5 |
| | μ Ophiuchi | 31·9 | 34·2 | +0·3 | 98 4 33·4 | ...... | ...... | ...... | ...... | + 1 55·8 | ........... | − 8 1 3·5 |
| | ι Herculis | 39·9 | 43·0 | 0·0 | 43 59 41·5 | ...... | ...... | ...... | ...... | + 0 9·9 | ........... | +46 5 34·3 |
| | ω Draconis | 48·7 | 51·8 | −0·3 | 21 15 49·8 | ...... | ...... | ...... | ...... | − 0 13·0 | ........... | +68 49 48·9 |
| | 87 Herculis | 7·0 | 9·4 | +0·1 | 64 24 8·4 | ...... | ...... | ...... | ...... | + 0 33·2 | ........... | +25 40 44·1 |
| | A.S.C. 2051 | 59·0 | 61·4 | +0·3 | 94 7 0·2 | ...... | ...... | ...... | ...... | + 1 38·1 | ........... | − 4 3 12·6 |
| | θ Herculis | 37·7 | 40·0 | +0·1 | 52 48 39·1 | ...... | ...... | ...... | ...... | + 0 19·3 | ........... | +37 16 27·3 |
| | 68 Ophiuchi | 13·2 | 16·7 | +0·2 | 88 45 15·1 | ...... | ...... | ...... | ...... | + 1 20·0 | ........... | + 1 18 50·6 |
| | 97 Herculis | 13·5 | 15·4 | +0·1 | 67 9 14·7 | ...... | ...... | ...... | ...... | + 0 37·0 | ........... | +22 55 34·0 |
| | 98 Herculis | 16·3 | 19·0 | +0·1 | 67 52 17·4 | ...... | ...... | ...... | ...... | + 0 38·0 | ........... | +22 12 30·3 |
| | 73 Ophiuchi | 53·7 | 56·6 | +0·2 | 86 5 55·2 | ...... | 51·1 | 29·38 | 53·4 | + 1 12·7 | ........... | + 3 58 17·8 |
| | 104 Herculis | 47·6 | 50·2 | +0·1 | 58 42 49·3 | ...... | ...... | ...... | ...... | + 0 26·1 | ........... | +31 22 10·3 |
| | (b) Moon South Limb | 27·4 | ...... | +0·5 | 116 14 28·9 | − 2·6 | ...... | ...... | ...... | + 6 28·6 | ........... | −26 15 29·2 |
| | (c) ........................ | ...... | 26·7 | +0·5 | 116 14 26·4 | − 0·2 | ...... | ...... | ...... | + 6 28·6 | ........... | −26 15 29·1 |
| | (d) ........................ | 23·3 | 25·1 | +0·5 | 116 14 24·8 | + 1·8 | ...... | ...... | ...... | + 6 28·6 | ........... | −26 15 29·5 |
| | 109 Herculis | 37·2 | 39·0 | +0·1 | 68 22 38·6 | ...... | ...... | ...... | ...... | + 0 38·8 | ........... | +21 42 8·3 |
| | (a) 59 Serpentis | 32·1 | 34·1 | +0·2 | 89 57 33·7 | 0·0 | ...... | ...... | ...... | + 1 23·8 | ........... | + 0 6 28·2 |
| | (e) A.S.C. 2134 | 52·0 | 55·0 | +0·1 | 66 18 53·8 | 0·0 | ...... | ...... | ...... | + 0 35·9 | ........... | +23 45 26·0 |
| | A.S.C. 2146 | 36·0 | 38·0 | +0·1 | 66 34 37·2 | ...... | ...... | ...... | ...... | + 0 36·3 | ........... | +23 30 12·2 |
| | (f) δ Ursæ Minoris | 22·8 | 26·4 | −0·5 | 3 30 24·0 | + 3·4 | ...... | ...... | ...... | − 0 33·8 | ........... | +86 35 32·1 |
| | 4 Aquilæ | 46·8 | 49·9 | +0·2 | 88 9 48·6 | ...... | ...... | ...... | ...... | + 1 18·4 | ........... | + 1 54 18·7 |
| | ζ¹ Lyræ | 29·0 | 31·0 | +0·1 | 52 38 29·7 | ...... | ...... | ...... | ...... | + 0 19·1 | ........... | +37 26 36·9 |
| | β Lyræ | 1·8 | 4·0 | +0·1 | 56 54 3·1 | ...... | ...... | ...... | ...... | + 0 24·0 | ........... | +33 10 58·6 |
| | 62 Serpentis | 54·0 | 56·1 | +0·2 | 83 38 55·4 | ...... | ...... | ...... | ...... | + 1 6·8 | ........... | + 6 25 23·5 |
| | Saturn Centre | 31·6 | 32·8 | +0·5 | 112 23 32·9 | ...... | 50·1 | 29·38 | 53·5 | + 4 27·7 | ........... | −22 22 34·9 |
| June 23 | Venus Centre | 22·0 | 25·5 | +0·1 | 68 12 23·5 | ...... | 65·1 | 29·34 | 60·4 | + 0 37·4 | 2·8 | +21 52 25·1 |
| | (e) 18 Draconis | 14·0 | 17·6 | −0·2 | 25 12 15·3 | 0·0 | 54·7 | 29·07 | 56·5 | − 0 8·8 | ........... | +64 53 19·5 |
| | 30 Ophiuchi | 44·4 | 45·7 | +0·3 | 94 2 45·7 | ...... | ...... | ...... | ...... | + 1 36·1 | ........... | − 3 58 55·8 |
| | (g) γ Ophiuchi | 52·5 | 55·8 | +0·2 | 87 17 54·7 | 0·0 | ...... | ...... | ...... | + 1 14·4 | ........... | + 2 46 16·9 |
| | (g) 87 Herculis | 6·2 | 9·2 | +0·1 | 64 24 7·9 | + 0·8 | 57·2 | 29·10 | 57·6 | + 0 32·5 | ........... | +25 40 44·8 |
| | (h) A.S.C. 2051 | 2·5 | 5·0 | +0·3 | 94 7 3·7 | 0·0 | ...... | ...... | ...... | + 1 36·1 | ........... | − 4 3 13·8 |
| | (i) θ Herculis | 37·0 | 40·5 | +0·1 | 52 48 39·1 | + 0·1 | ...... | ...... | ...... | + 0 18·8 | ........... | +37 16 28·0 |
| | (e) 68 Ophiuchi | 14·5 | 18·8 | +0·2 | 88 45 16·8 | 0·0 | ...... | ...... | ...... | + 1 18·4 | ........... | + 1 18 50·8 |
| | (e) 97 Herculis | 14·0 | 17·0 | +0·1 | 67 9 15·7 | 0·0 | ...... | ...... | ...... | + 0 36·2 | ........... | +22 55 34·1 |
| | 98 Herculis | 17·3 | 20·3 | +0·1 | 67 52 18·5 | ...... | ...... | ...... | ...... | + 0 37·2 | ........... | +22 12 30·3 |
| | 102 Herculis | 7·8 | 11·3 | +0·1 | 69 17 9·3 | ...... | ...... | ...... | ...... | + 0 39·3 | ........... | +20 47 37·4 |

(a) Wire IV.
(b) At 18$^h$ 10$^m$ 36$^s$.
(c) At 18$^h$ 11$^m$ 16$^s$.
(d) At 18$^h$ 12$^m$.
(e) Wire III.
(f) At 18$^h$ 29$^m$.
(g) 1$^m$ after transit.
(h) Wire I.
(i) Wire II.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| June 23 | (a) $\mu^1$ Sagittarii | 8·0 | 9·8 | +0·5 | 111 7 9·1 | − 0·3 | …… | …… | …… | + 3 56·2 | 304 8 2·8 | −21 5 39·0 |
|  | 40 Draconis | 29·6 | 34·4 | −0·4 | 10 7 32·0 | …… | …… | …… | …… | − 0 24·8 | ………… | +79 58 18·8 |
|  | (b) ϰ Lyræ | 15·8 | 19·9 | +0·1 | 54 5 17·9 | + 0·2 | …… | …… | …… | + 0 20·3 | ………… | +35 59 47·6 |
|  | 109 Herculis | 38·2 | 40·9 | +0·1 | 68 22 40·0 | …… | …… | …… | …… | + 0 38·0 | ………… | +21 42 8·0 |
|  | (b) 59 Serpentis | 35·1 | 37·1 | +0·2 | 89 57 36·7 | 0·0 | …… | …… | …… | + 1 22·1 | ………… | + 0 6 27·2 |
|  | A.S.C. 2134 | 53·1 | 57·0 | +0·1 | 66 18 55·3 | …… | …… | …… | …… | + 0 35·2 | ………… | +23 45 55·5 |
|  | A.S.C. 2146 | 36·0 | 39·0 | +0·1 | 66 34 37·7 | …… | …… | …… | …… | + 0 35·5 | ………… | +23 30 12·8 |
|  | (c) δ Ursæ Minoris | 21·8 | 26·6 | −0·5 | 3 30 23·6 | + 3·4 | 55·8 | 29·11 | 56·5 | − 0 33·1 | ………… | +86 35 32·1 |
|  | 4 Aquilæ | 47·5 | 52·0 | +0·2 | 88 9 50·0 | …… | …… | …… | …… | + 1 16·9 | ………… | + 1 54 19·1 |
|  | $\zeta^1$ Lyræ | 30·1 | 32·5 | +0·1 | 52 38 31·6 | …… | …… | …… | …… | + 0 18·7 | ………… | +37 26 35·7 |
|  | β Lyræ | 2·9 | 5·2 | +0·1 | 56 54 4·3 | …… | …… | …… | …… | + 0 23·5 | ………… | +33 10 58·2 |
|  | 62 Serpentis | 55·4 | 57·4 | +0·2 | 83 38 56·8 | …… | …… | …… | …… | + 1 5·5 | ………… | + 6 25 23·7 |
|  | Saturn Centre | 1·3 | 1·2 | +0·5 | 112 24 1·9 | …… | …… | …… | …… | + 4 23·1 | ………… | −22 22 59·0 |
|  | λ Aquilæ | 30·7 | 31·9 | +0·3 | 95 10 31·5 | …… | …… | …… | …… | + 1 40·9 | ………… | − 5 6 46·4 |
|  | (d) Moon North Limb | 8·8 | …… | +0·5 | 113 42 9·5 | − 5·2 | …… | …… | …… | + 4 54·8 | ………… | −23 41 33·1 |
|  | (e) ………… | …… | 2·1 | +0·5 | 113 42 1·9 | …… | …… | …… | …… | + 4 54·8 | ………… | −23 41 30·7 |
|  | (f) ………… | 0·0 | 0·9 | +0·5 | 113 42 0·7 | + 4·4 | …… | …… | …… | + 4 54·8 | ………… | −23 41 33·9 |
|  | (a) ϰ Cygni | 37·8 | 40·2 | 0·0 | 37 0 38·9 | + 1·0 | …… | …… | …… | + 0 2·8 | ………… | +53 4 43·3 |
|  | (g) 3 Vulpeculæ | 4·1 | 6·2 | +0·1 | 64 7 4·9 | 0·0 | …… | …… | …… | + 0 32·3 | ………… | +25 57 48·8 |
|  | 3 Cygni | 55·0 | 57·9 | +0·1 | 65 26 56·3 | …… | …… | …… | …… | + 0 34·1 | ………… | +24 37 55·6 |
|  | 8 Vulpeculæ | 59·0 | 62·5 | +0·1 | 65 38 1·1 | …… | …… | …… | …… | + 0 34·4 | ………… | +24 26 50·5 |
|  | Jupiter Centre | 24·9 | 25·7 | +0·5 | 112 13 26·0 | …… | 54·0 | 29·11 | 54·7 | + 4 19·4 | ………… | −22 12 19·4 |
| June 24 | Sun North Limb | 53·8 | 57·5 | +0·1 | 66 22 56·1 | …… | 61·7 | 29·06 | 59·0 | + 0 34·8 | ………… | +23 41 55·1 |
|  | χ Bootis | 46·5 | 50·5 | +0·1 | 60 19 48·6 | …… | 54·5 | 29·06 | 56·5 | + 0 27·5 | ………… | +29 45 9·9 |
|  | (b) γ Coronæ Borealis | 59·0 | 61·3 | +0·1 | 63 16 59·9 | + 0·1 | …… | …… | …… | + 0 31·2 | ………… | +26 47 54·8 |
|  | (b) α Scorpii | 56·8 | 58·4 | +0·5 | 116 3 58·3 | − 0·1 | 55·0 | 29·07 | 55·4 | + 6 14·0 | ………… | −26 4 46·2 |
|  | (h) β Ophiuchi | 56·0 | 59·1 | +0·2 | 85 25 57·6 | + 0·1 | 54·9 | 29·09 | 55·0 | + 1 9·7 | ………… | + 4 38 18·6 |
| June 25 | (i) Nadir | 59·2<br>63·6 | 63·2<br>68·1 | −0·1 | 214 8 3·0 | …… | …… | …… | …… | ……… | 3·2 | …………… |
|  | ………… | 63·1<br>58·8 | 68·0<br>63·3 | −0·1 | 214 8 3·5 | …… | …… | …… | …… | ……… | ………… | …………… |
|  | δ Bootis | 39·1 | 40·8 | +0·1 | 56 10 39·9 | …… | 51·3 | 28·82 | 54·8 | + 0 22·6 | ………… | +33 54 23·9 |
| June 27 | Sun South Limb | 29·1 | 32·0 | +0·1 | 66 59 30·7 | …… | 57·5 | 29·74 | 57·0 | + 0 36·8 | 3·0 | +23 5 18·7 |
| June 28 | (k) γ Coronæ Borealis | 58·9 | 61·1 | +0·1 | 63 16 59·8 | + 0·1 | 56·1 | 29·52 | 57·3 | + 0 31·6 | ………… | +26 47 54·7 |
|  | (b) δ Coronæ Borealis | 36·3 | 38·7 | +0·1 | 63 31 37·3 | + 0·1 | …… | …… | …… | + 0 31·9 | ………… | +26 33 16·9 |
|  | 43 Serpentis | 47·2 | 51·8 | +0·2 | 84 38 49·9 | …… | …… | …… | …… | + 1 8·7 | ………… | + 5 25 27·6 |
|  | 48 Serpentis | 59·4 | 63·8 | +0·1 | 73 0 1·7 | …… | …… | …… | …… | + 0 45·6 | ………… | +17 4 38·9 |
|  | A.S.C. 1865 | 22·4 | 26·0 | +0·3 | 93 37 24·1 | …… | …… | …… | …… | + 1 35·8 | ………… | − 3 33 33·7 |
|  | τ Herculis | 40·9 | 46·3 | 0·0 | 43 23 43·8 | …… | …… | …… | …… | + 0 9·2 | ………… | +46 41 33·2 |
|  | υ Ophiuchi | 23·7 | 27·2 | +0·3 | 98 4 25·8 | …… | …… | …… | …… | + 1 55·3 | ………… | − 8 0 54·9 |
|  | (k) 30 Herculis | 13·6 | 18·8 | +0·1 | 47 51 16·1 | + 0·2 | …… | …… | …… | + 0 13·8 | ………… | +42 13 56·1 |
|  | 15 Draconis | 59·8 | 65·7 | −0·3 | 20 59 2·6 | …… | …… | …… | …… | − 0 13·2 | ………… | +69 6 36·8 |
|  | 43 Herculis | 57·0 | 61·5 | +0·1 | 81 11 59·1 | …… | 56·1 | 29·50 | 56·6 | + 1 0·8 | ………… | + 8 52 26·3 |
|  | 21 Ophiuchi | 46·0 | 50·2 | +0·2 | 88 34 48·3 | …… | …… | …… | …… | + 1 19·1 | ………… | + 1 29 18·8 |
|  | 23 Ophiuchi | 9·2 | 13·7 | +0·3 | 95 57 11·4 | …… | …… | …… | …… | + 1 45·3 | ………… | − 5 53 30·5 |
|  | 54 Herculis | 20·5 | 22·0 | +0·1 | 71 23 21·6 | …… | …… | …… | …… | + 0 43·0 | ………… | +18 41 21·6 |
|  | 30 Ophiuchi | 41·5 | 44·0 | +0·3 | 94 2 43·4 | …… | …… | …… | …… | + 1 37·5 | ………… | − 3 58 54·7 |
|  | A.S.C. 1951 | 59·0 | 60·9 | +0·4 | 100 55 0·4 | …… | …… | …… | …… | + 2 11·3 | ………… | −10 51 45·5 |
|  | Groomb. 931 S.P. | 35·6 | 43·0 | −0·5 | 348 20 38·7 | …… | …… | …… | …… | − 0 58·2 | ………… | +78 14 14·3 |
|  | Groombridge 2427 | 56·9 | 62·2 | −0·4 | 14 34 59·2 | …… | …… | …… | …… | − 0 20·1 | ………… | +75 30 47·1 |
|  | π Herculis | 39·0 | 43·0 | +0·1 | 53 5 41·0 | …… | …… | …… | …… | + 0 19·5 | ………… | +36 59 25·7 |
|  | 70 Herculis | 11·1 | 15·5 | +0·1 | 65 25 13·4 | …… | …… | …… | …… | + 0 34·5 | ………… | +24 39 38·3 |

(a) Wire V.
(b) Wire IV.
(c) At $18^h\ 29^m\ 4^s$.
(d) At $19^h\ 7^m$.
(e) At $19^h\ 7^m\ 44^s$.
(f) At $19^h\ 8^m\ 28^s$.
(g) Wire III.
(h) $1^m$ after transit.
(i) At $14^h\ 30^m$.
(k) Wire II.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ |
| June 28 | ϱ Herculis, following | 27·0 | 30·0 | +0·1 | 52 47 28·2 | ...... | ...... | ...... | ...... | + 0 19·1 | 304 8 3·0 | +37 17 38·9 |
| | A.S.C. 2008 | 16·8 | 21·0 | +0·2 | 87 13 19·4 | ...... | ...... | ...... | ...... | + 1 15·4 | ..... ..... | + 2 50 51·4 |
| | 78 Herculis | 22·0 | 25·1 | +0·1 | 61 33 23·9 | ...... | ...... | ...... | ...... | + 0 29·4 | ............ | +28 31 32·9 |
| | μ Ophiuchi | 32·1 | 35·0 | +0·3 | 98 4 33·9 | ...... | 55·1 | 29·52 | 56·3 | + 1 55·6 | ............ | − 8 1 3·3 |
| | 89 Herculis | 6·4 | 8·9 | +0·1 | 64 0 7·7 | ...... | ...... | ...... | ...... | + 0 32·6 | ............ | +26 4 45·9 |
| | ξ Herculis | 47·5 | 49·7 | +0·1 | 60 48 48·9 | ...... | ...... | ...... | ...... | + 0 28·5 | ............ | +29 16 8·8 |
| | 95 Herculis, preced. | 43·1 | 47·0 | +0·1 | 68 28 45·3 | ...... | ...... | ...... | ...... | + 0 38·8 | ............ | +21 36 2·1 |
| | (a) 70 Ophiuchi, preced. | 37·0 | 40·2 | +0·2 | 87 31 38·6 | 0·0 | ...... | ...... | ...... | + 1 16·3 | ............ | + 2 32 31·3 |
| | 102 Herculis | 6·8 | 10·5 | +0·1 | 69 17 8·4 | ...... | ...... | ...... | ...... | + 0 40·0 | ............ | +20 47 37·8 |
| | 104 Herculis | 46·2 | 50·0 | +0·1 | 58 42 48·5 | ...... | ...... | ...... | ...... | + 0 26·0 | ............ | +31 22 11·7 |
| | (b) δ Ursæ Minoris | 22·1 | 28·0 | −0·5 | 3 30 24·5 | + 3·3 | 54·5 | 29·50 | 56·2 | − 0 33·6 | ............ | +86 35 32·0 |
| | Saturn Centre | 16·9 | 18·7 | +0·5 | 112 26 18·1 | ...... | ...... | ...... | ...... | + 4 28·4 | ............ | −22 25 20·3 |
| | Jupiter Centre | 18·0 | 19·9 | +0·5 | 112 19 19·5 | ...... | 54·1 | 29·50 | 55·8 | + 4 25·1 | ............ | −22 18 18·4 |
| June 29 | A.S.C. 1698 | 5·1 | 8·1 | +0·1 | 73 3 7·0 | ...... | 53·0 | 29·62 | 54·8 | + 0 46·2 | 2·9 | +17 1 32·9 |
| | (c) δ Bootis | 37·5 | 40·5 | +0·1 | 56 10 39·0 | + 0·1 | ...... | ...... | ...... | + 0 23·2 | ............ | +33 54 23·8 |
| | 14 Serpentis | 7·6 | 11·0 | +0·2 | 90 6 9·3 | ...... | ...... | ...... | ...... | + 1 24·5 | ............ | − 0 2 7·7 |
| | ψ Serpentis | 42·3 | 46·1 | +0·2 | 87 2 44·7 | ...... | ...... | ...... | ...... | + 1 15·6 | ............ | + 3 1 25·8 |
| | λ Serpentis | 19·0 | 22·9 | +0·1 | 82 13 21·3 | ...... | ...... | ...... | ...... | + 1 3·7 | ............ | + 7 51 1·1 |
| | 36 Serpentis | 27·2 | 30·7 | +0·3 | 92 40 29·2 | ...... | 52·3 | 29·62 | 53·7 | + 1 33·4 | ............ | − 2 36 36·5 |
| | A.S.C. 1865 | 20·8 | 23·5 | +0·3 | 93 37 22·1 | ...... | ...... | ...... | ...... | + 1 36·9 | ............ | − 3 33 32·9 |
| | ν Ophiuchi | 22·8 | 25·2 | +0·3 | 98 4 24·4 | ...... | ...... | ...... | ...... | + 1 56·6 | ............ | − 8 0 54·9 |
| | 30 Herculis | 14·8 | 18·0 | +0·1 | 47 51 16·3 | ...... | ...... | ...... | ...... | + 0 14·0 | ............ | +42 13 55·8 |
| | 33 Herculis | 26·0 | 27·8 | +0·2 | 82 38 27·3 | ...... | ...... | ...... | ...... | + 1 4·8 | ............ | + 7 25 54·0 |
| | 43 Herculis | 55·0 | 58·9 | +0·1 | 81 11 56·7 | ...... | 51·5 | 29·62 | 52·4 | + 1 1·6 | ............ | + 8 52 27·8 |
| | 21 Ophiuchi | 43·9 | 47·0 | +0·2 | 88 34 45·7 | ...... | ...... | ...... | ...... | + 1 20·2 | ............ | + 1 29 20·2 |
| | 23 Ophiuchi | 6·9 | 10·8 | +0·3 | 95 57 8·8 | ...... | ...... | ...... | ...... | + 1 46·7 | ............ | − 5 53 29·4 |
| | 54 Herculis | 19·1 | 21·1 | +0·1 | 71 23 20·5 | ..... | ...... | ...... | ...... | + 0 43·6 | ............ | +18 41 22·0 |
| | 30 Ophiuchi | 40·0 | 41·9 | +0·3 | 94 2 41·6 | ...... | ...... | ...... | ...... | + 1 38·8 | ............ | − 3 58 54·3 |
| | A.S.C. 1951 | 57·2 | 57·1 | +0·4 | 100 54 57·6 | ...... | ...... | ...... | ...... | + 2 13·0 | ............ | −10 51 44·5 |
| | 60 Herculis | 48·6 | 51·7 | +0·1 | 77 6 50·0 | ...... | ...... | ...... | ...... | + 0 53·4 | ............ | +12 57 42·7 |
| | Groomb. 931 S.P. | 37·3 | 43·9 | −0·5 | 348 20 40·0 | ...... | ...... | ...... | .. ... | − 0 58·9 | ............ | +78 14 15·0 |
| | Groombridge 2427 | 57·2 | 61·2 | −0·4 | 14 34 58·8 | ...... | ...... | ...... | ...... | − 0 26·4 | ............ | +75 30 47·7 |
| | π Herculis | 38·5 | 40·2 | +0·1 | 53 5 39·3 | ...... | ...... | ...... | ...... | + 0 19·7 | ............ | +36 59 27·1 |
| | 70 Herculis | 9·7 | 12·9 | +0·1 | 65 25 11·4 | ...... | ...... | ...... | ...... | + 0 34·9 | ............ | +24 39 39·8 |
| | ϱ Herculis, following | 25·5 | 27·1 | +0·1 | 52 47 26·0 | ...... | ...... | ...... | ...... | + 0 19·4 | ............ | +37 17 40·7 |
| | A.S.C. 2008 | 16·6 | 19·4 | +0·2 | 87 13 18·5 | ...... | ...... | ...... | ...... | + 1 16·3 | ............ | + 2 50 51·3 |
| | 78 Herculis | 20·6 | 22·8 | +0·1 | 61 33 22·1 | ...... | ...... | ...... | ...... | + 0 29·8 | ............ | +28 31 34·2 |
| | μ Ophiuchi | 32·4 | 34·0 | +0·3 | 98 4 33·6 | ...... | 50·8 | 29·60 | 51·5 | + 1 56·9 | ............ | − 8 1 4·4 |
| | β Ophiuchi | 55·7 | 58·1 | +0·2 | 85 25 57·0 | ...... | ...... | ...... | ...... | + 1 11·6 | ............ | + 4 38 17·5 |
| | γ Ophiuchi | 49·8 | 52·2 | +0·2 | 87 17 51·5 | ...... | ...... | ...... | ...... | + 1 16·5 | ............ | + 2 46 18·1 |
| | 87 Herculis | 5·8 | 7·9 | +0·1 | 64 24 7·1 | ...... | ...... | ...... | ...... | + 0 33·5 | ............ | +25 40 45·5 |
| | A.S.C. 2051 | 59·5 | 61·8 | +0·3 | 94 7 0·6 | ...... | ...... | ...... | ...... | + 1 39·1 | ............ | − 4 3 13·6 |
| | ξ Herculis | 47·8 | 49·0 | +0·1 | 60 48 48·7 | ...... | ...... | ...... | ...... | + 0 28·9 | ............ | +29 16 8·5 |
| | τ Ophiuchi | 55·0 | 57·0 | +0·3 | 98 13 56·5 | ...... | ...... | ...... | ...... | + 1 57·7 | ............ | − 8 10 28·1 |
| | 70 Ophiuchi, preced. | 34·9 | 37·1 | +0·2 | 87 31 36·0 | ...... | ...... | ...... | ...... | + 1 17·2 | ............ | + 2 32 32·9 |
| | 71 Ophiuchi | 14·0 | 17·8 | +0·1 | 81 21 15·8 | ...... | ...... | ...... | ...... | + 1 2·0 | ............ | + 8 43 8·3 |
| | $\mu^1$ Sagittarii | 59·0 | 60·4 | +0·5 | 111 6 59·9 | ...... | ...... | ...... | ...... | + 4 3·2 | ............ | −21 5 37·0 |
| | 40 Draconis | 29·2 | 32·8 | −0·4 | 10 7 30·2 | ...... | ...... | ...... | ...... | − 0 25·6 | ............ | +79 58 21·5 |
| | Groomb. 1151 S.P. | 37·1 | 41·8 | −0·5 | 348 12 39·3 | ...... | ...... | ...... | ...... | − 0 59·2 | ............ | +78 6 14·0 |
| | (d) Nadir | 57·7<br>63·8 | 63·0<br>68·0 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ...................... | 63·1<br>57·9 | 68·1<br>63·2 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | 48 Draconis | 1·0 | 4·0 | −0·1 | 32 29 2·5 | ...... | 50·8 | 29·60 | 52·0 | − 0 1·6 | ............ | +57 36 25·2 |
| | 1 Sagittæ | 4·5 | 7·2 | +0·1 | 69 7 5·6 | ...... | ...... | ...... | ...... | + 0 40·2 | ............ | +20 57 40·3 |

(a) Wire V. | (b) At 18h 29m 20s. | (c) Wire IV. | (d) At 18h 40m.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| June 29 | 54 Draconis | 23·0 | 26·3 | −0·1 | 32 39 24·6 | ...... | ...... | ...... | ...... | − 0 1·5 | 304 8 2·9 | +57 26 3·0 |
|  | 3 Vulpeculæ | 2·2 | 5·0 | +0·1 | 64 7 3·4 | ...... | 50·9 | ...... | ...... | + 0 33·1 | ............ | +25 57 49·6 |
| June 30 | (a) δ Coronæ Borealis | 37·0 | 38·1 | +0·1 | 63 31 37·4 | + 0·1 | 55·8 | 29·60 | 56·1 | + 0 32·0 | 2·8 | +26 33 16·5 |
| July 1 | Sun North Limb | 32·9 | 35·9 | +0·1 | 66 40 34·4 | ...... | 59·1 | 29·46 | 56·9 | + 0 35·8 | ............ | +23 24 15·8 |
|  | 84 Herculis | 47·0 | 51·0 | +0·1 | 65 40 49·0 | ...... | ...... | ...... | ...... | + 0 34·9 | ............ | +24 24 2·1 |
|  | 89 Herculis | 6·9 | 8·7 | +0·1 | 64 0 7·9 | ...... | ...... | ...... | ...... | + 0 32·7 | ............ | +26 4 45·4 |
|  | ξ Herculis | 46·2 | 48·9 | +0·1 | 60 48 47·8 | ...... | ...... | ...... | ...... | + 0 28·6 | ............ | +29 16 9·6 |
|  | 95 Herculis, preced. | 42·2 | 46·9 | +0·1 | 68 28 44·8 | ...... | ...... | ...... | ...... | + 0 38·9 | ............ | +21 36 2·3 |
|  | 70 Ophiuchi, preced. | 35·9 | 39·1 | +0·2 | 87 31 37·4 | ...... | ...... | ...... | ...... | + 1 16·5 | ............ | + 2 32 32·1 |
|  | (b) 98 Herculis | 14·2 | 18·0 | +0·1 | 67 52 15·9 | + 0·1 | ...... | ...... | ...... | + 0 38·0 | ............ | +22 12 32·0 |
|  | $\mu^1$ Sagittarii | 59·1 | 61·6 | +0·5 | 111 7 0·5 | ...... | ...... | ...... | ...... | + 4 1·0 | ............ | −21 5 35·5 |
|  | 40 Draconis | 28·9 | 33·0 | −0·4 | 10 7 30·2 | ...... | ...... | ...... | ...... | − 0 25·3 | ............ | +79 58 21·1 |
|  | 109 Herculis | 36·4 | 38·4 | +0·1 | 68 22 37·9 | ...... | ...... | ...... | ...... | + 0 38·7 | ............ | +21 42 9·4 |
|  | A.S.C. 2134 | 50·3 | 54·1 | +0·1 | 66 18 52·5 | ...... | ...... | ...... | ...... | + 0 35·8 | ............ | +23 45 57·7 |
|  | β Lyræ | 0·2 | 3·3 | +0·1 | 56 54 2·0 | ...... | 50·8 | 29·34 | 52·9 | + 0 23·9 | ............ | +33 11 0·1 |
| July 2 | Sun South Limb | 9·4 | 12·2 | +0·1 | 67 16 10·7 | ...... | 57·0 | 29·35 | 55·2 | + 0 36·7 | ............ | +22 48 38·6 |
| July 8 | 89 Herculis | 5·8 | 7·5 | +0·1 | 63 0 6·7 | ...... | ...... | ...... | ...... | + 0 31·2 | ............ | +27 4 48·1 |
|  | ζ Serpentis | 15·8 | 18·2 | +0·3 | 93 44 17·4 | ...... | ...... | ...... | ...... | + 1 36·3 | ............ | − 3 40 27·7 |
|  | (c) 95 Herculis, preced. | 39·5 | 43·8 | +0·1 | 68 28 43·0 | + 0·3 | 50·8 | 29·22 | 54·7 | + 0 38·7 | ............ | +21 36 4·0 |
|  | (b) 102 Herculis | 3·5 | 7·1 | +0·1 | 69 17 5·1 | + 0·1 | ...... | ...... | ...... | + 0 39·9 | ............ | +20 47 40·9 |
|  | 104 Herculis | 43·9 | 47·8 | +0·1 | 58 42 46·3 | ...... | ...... | ...... | ...... | + 0 25·9 | ............ | +31 22 13·8 |
|  | (d) 36 Draconis | 50·1 | 53·1 | −0·2 | 25 44 51·4 | + 0·1 | ...... | ...... | ...... | − 0 8·4 | ............ | +64 20 42·9 |
|  | χ Draconis | 53·6 | 57·8 | −0·3 | 17 25 55·3 | ...... | ...... | ...... | ...... | − 0 17·0 | ............ | +72 39 47·7 |
|  | (e) δ Ursæ Minoris | 19·8 | 24·7 | −0·5 | 3 30 21·7 | + 1·8 | 50·5 | 29·24 | 53·7 | − 0 33·6 | ............ | +86 35 36·1 |
| July 9 | ξ Coronæ Borealis | 14·4 | 16·9 | +0·1 | 58 49 15·9 | ...... | ...... | ...... | ...... | + 0 25·9 | ............ | +31 15 44·2 |
|  | (f) υ Ophiuchi | 24·2 | 26·2 | +0·3 | 98 4 25·6 | − 0·1 | 51·7 | 29·11 | 54·5 | + 1 54·7 | ............ | − 8 0 54·2 |
|  | σ Herculis | 11·8 | 15·5 | +0·1 | 47 19 13·9 | ...... | ...... | ...... | ...... | + 0 13·2 | ............ | +42 45 58·9 |
|  | 18 Draconis | 9·0 | 12·0 | −0·2 | 25 12 10·0 | ...... | ...... | ...... | ...... | − 0 8·9 | ............ | +64 53 24·9 |
|  | (b) 21 Ophiuchi | 46·2 | 47·5 | +0·2 | 88 34 47·1 | 0·0 | ...... | ...... | ...... | + 1 18·7 | ............ | + 1 29 20·2 |
|  | 23 Ophiuchi | 8·7 | 12·1 | +0·3 | 95 57 10·3 | ...... | ...... | ...... | ...... | + 1 44·8 | ............ | − 5 53 29·1 |
|  | A.S.C. 1956 | 13·9 | 16·3 | +0·2 | 90 44 15·4 | ...... | ...... | ...... | ...... | + 1 25·3 | ............ | − 0 40 14·7 |
|  | (g) μ Draconis (North) | 28·4 | 31·9 | 0·0 | 35 24 30·2 | 0·0 | ...... | ...... | ...... | + 0 1·3 | ............ | +54 40 54·5 |
|  | 37 Ophiuchi | 35·0 | 38·2 | +0·1 | 79 17 37·1 | ...... | ...... | ...... | ...... | + 0 56·6 | ............ | +10 46 52·3 |
|  | δ Herculis | 1·6 | 5·1 | +0·1 | 65 3 3·7 | ...... | 52·0 | 29·13 | 53·1 | + 0 33·8 | ............ | +25 1 48·5 |
|  | σ Ophiuchi | 16·9 | 19·3 | +0·2 | 85 47 17·9 | ...... | ...... | ...... | ...... | + 1 11·1 | ............ | + 4 16 57·0 |
|  | λ Herculis | 49·0 | 51·0 | +0·1 | 63 50 50·0 | ...... | ...... | ...... | ...... | + 0 32·2 | ............ | +26 14 3·8 |
|  | 54 Ophiuchi | 4·4 | 7·4 | +0·1 | 76 48 6·3 | ...... | ...... | ...... | ...... | + 0 51·9 | ............ | +13 16 27·8 |
|  | (b) $\nu^1$ Draconis | 41·1 | 42·9 | 0·0 | 34 47 42·4 | + 0·3 | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 42·6 |
|  | 84 Herculis | 45·0 | 48·0 | +0·1 | 65 40 46·5 | ...... | ...... | ...... | ...... | + 0 34·6 | ............ | +24 24 4·9 |
|  | (b) ζ Serpentis | 15·2 | 16·3 | +0·3 | 93 44 16·2 | 0·0 | ...... | ...... | ...... | + 1 35·8 | ............ | − 3 40 26·0 |
|  | 96 Herculis | 28·0 | 30·1 | +0·1 | 69 14 29·2 | ...... | ...... | ...... | ...... | + 0 39·6 | ............ | +20 50 17·2 |
|  | 71 Ophiuchi | 14·8 | 17·2 | +0·1 | 81 21 15·9 | ...... | ...... | ...... | ...... | + 1 0·9 | ............ | + 8 43 9·2 |
|  | $\mu^1$ Sagittarii | 6·5 | 6·2 | +0·5 | 111 7 6·5 | ...... | 51·8 | 29·13 | 52·6 | + 3 58·8 | ............ | −21 5 39·3 |
|  | 74 Ophiuchi | 26·0 | 27·4 | +0·2 | 86 45 26·8 | ...... | ...... | ...... | ...... | + 1 13·6 | ............ | + 3 18 45·6 |
|  | A.S.C. 2117 | 10·6 | 12·8 | +0·1 | 66 52 11·4 | ...... | ...... | ...... | ...... | + 0 36·2 | ............ | +23 12 38·4 |
|  | 59 Serpentis, follow. | 32·5 | 34·2 | +0·2 | 89 57 33·9 | ...... | ...... | ...... | ...... | + 1 22·9 | ............ | + 0 6 29·2 |
|  | A.S.C. 2146 | 31·8 | 34·5 | +0·1 | 66 34 33·3 | ...... | ...... | ...... | ...... | + 0 35·9 | ............ | +23 30 16·8 |
|  | (h) δ Ursæ Minoris | 16·7 | 21·9 | −0·5 | 3 30 18·8 | + 3·5 | ...... | ...... | ...... | − 0 33·4 | ............ | +86 35 37·1 |
|  | 4 Aquilæ | 45·0 | 48·7 | +0·2 | 88 9 47·1 | ...... | ...... | ...... | ...... | + 1 17·6 | ............ | + 1 54 21·3 |
|  | $\zeta^1$ Lyræ | 25·3 | 28·0 | +0·1 | 52 38 27·0 | ...... | ...... | ...... | ...... | + 0 18·9 | ............ | +37 26 40·1 |
|  | (g) 113 Herculis | 44·8 | 47·5 | +0·1 | 67 37 46·6 | 0·0 | ...... | ...... | ...... | + 0 37·3 | ............ | +22 27 2·1 |

(a) Wire II.
(b) Wire IV.
(c) Wire V.
(d) $15^s$ after transit.
(e) At $18^h\ 27^m\ 30^s$.
(f) Wire I.
(g) Wire III.
(h) At $18^h\ 29^m\ 10^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ″ | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| July 9 | 12 Aquilæ | 54·3 | 57·0 | +0·3 | 96 0 55·8 | ...... | ...... | ...... | ...... | + 1 45·2 | 304 8 2·8 | − 5 57 15·0 |
| | 15 Aquilæ | 20·4 | 21·8 | +0·3 | 94 19 21·5 | ...... | ...... | ...... | ...... | + 1 38·1 | ............ | − 4 15 33·6 |
| | 18 Aquilæ | 24·0 | 26·5 | +0·1 | 79 14 25·4 | ...... | ...... | ...... | ...... | + 0 56·6 | ............ | +10 50 4·0 |
| | (a) Piazzi VI. 334 S.P. | 9·3 | 14·6 | −0·5 | 351 18 11·7 | − 0·3 | ...... | ...... | ...... | − 0 52·3 | ............ | +81 11 53·1 |
| | 1 Vulpeculæ | 44·1 | 46·9 | +0·1 | 68 57 46·0 | ...... | ...... | ...... | ...... | + 0 39·3 | ............ | +21 7 0·7 |
| | 26 Aquilæ | 54·0 | 57·1 | +0·3 | 95 45 55·7 | ...... | ...... | ...... | ...... | + 1 44·2 | ............ | − 5 42 13·9 |
| | 59 Draconis | 5·0 | 8·8 | −0·4 | 13 48 6·8 | ...... | ...... | ...... | ...... | − 0 20·9 | ............ | +76 17 40·1 |
| | (b) Jupiter Centre | 15·5 | 17·2 | +0·5 | 112 32 16·5 | 0·0 | 51·3 | 29·13 | 52·0 | + 4 28·1 | ............ | −22 31 18·6 |
| July 11 | (c) Nadir | 59·0<br>63·2 | 63·3<br>67·8 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | 2·8 | ............ |
| | ...................... | 62·6<br>57·8 | 67·7<br>63·0 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | .. ...... | ............ | ............ |
| July 12 | (d) Moon North Limb | 3·9 | ...... | +0·2 | 90 50 5·4 | +12·2 | ...... | ...... | ...... | + 1 24·9 | 2·8 | − 0 46 16·5 |
| | (e) ...................... | ...... | 18·1 | +0·2 | 90 50 16·8 | + 1·0 | ...... | ...... | ...... | + 1 24·9 | ............ | − 0 46 16·7 |
| | (f) ...................... | 25·2 | 28·0 | +0·2 | 90 50 26·7 | − 8·9 | 63·0 | 29·54 | 60·8 | + 1 24·9 | ............ | − 0 46 16·7 |
| | δ Ursæ Majoris | 44·5 | 48·7 | −0·1 | 32 10 46·4 | ...... | ...... | ...... | ...... | − 0 1·9 | ............ | +57 54 41·5 |
| | (g) 43 Serpentis | 46·0 | 50·7 | +0·2 | 84 38 48·8 | 0·0 | 57·5 | 29·58 | 58·7 | + 1 8·6 | ............ | + 5 25 28·6 |
| | 10 Herculis | 24·0 | 28·1 | +0·1 | 66 10 26·1 | ...... | ...... | ...... | ...... | + 0 35·4 | ............ | +23 54 24·5 |
| | 17 Herculis | 38·2 | 42·5 | +0·1 | 66 33 40·7 | ...... | ...... | ...... | ...... | + 0 36·0 | ............ | +23 31 9·3 |
| | ξ Coronæ Borealis | 13·7 | 17·2 | +0·1 | 58 49 15·7 | ...... | ...... | ...... | ...... | + 0 26·0 | ............ | +31 15 44·3 |
| | 25 Herculis | 38·1 | 41·7 | +0·1 | 52 19 40·1 | ...... | ...... | ...... | ...... | + 0 18·6 | ............ | +37 45 27·3 |
| | 28 Herculis | 36·2 | 39·0 | +0·2 | 84 12 38·2 | ...... | ...... | ...... | ...... | + 1 7·6 | ............ | + 5 51 40·2 |
| | σ Herculis | 11·6 | 14·2 | +0·1 | 47 19 13·1 | ...... | ...... | ...... | ...... | + 0 13·3 | ...... ..... | +42 45 59·6 |
| | 45 Herculis | 13·8 | 18·0 | +0·2 | 84 32 15·7 | ...... | ...... | ...... | ...... | + 1 8·4 | ............ | + 5 32 1·9 |
| | (h) 52 Herculis | 29·5 | 32·9 | 0·0 | 43 49 31·3 | + 1·8 | 56·8 | 29·57 | 57·9 | + 0 9·7 | ............ | +46 15 43·2 |
| | A.S.C. 1951 | 59·7 | 60·7 | +0·4 | 100 55 0·6 | ...... | ...... | ...... | ...... | + 2 11·3 | ............ | −10 51 45·9 |
| | 60 Herculis | 47·5 | 51·2 | +0·1 | 77 6 49·1 | ...... | ...... | ...... | ...... | + 0 52·8 | ............ | +12 57 44·1 |
| | A.S.C. 1963 | 24·1 | 27·5 | +0·1 | 53 56 25·6 | ..... | ...... | ...... | ...... | + 0 20·4 | ............ | +36 8 40·0 |
| | 37 Ophiuchi | 35·0 | 38·0 | +0·1 | 79 17 37·0 | ...... | ...... | ...... | ... .. | + 0 57·0 | ............ | +10 46 52·0 |
| | 41 Ophiuchi | 44·8 | 47·2 | +0·2 | 90 19 46·2 | ...... | ...... | ...... | ...... | + 1 24·4 | ............ | − 0 15 44·6 |
| | σ Ophiuchi | 16·5 | 19·7 | +0·2 | 85 47 17·9 | ...... | ...... | ...... | ...... | + 1 11·5 | ............ | + 4 16 56·6 |
| | λ Herculis | 48·3 | 50·8 | +0·1 | 63 50 49·5 | ...... | ...... | ...... | ...... | + 0 32·3 | ............ | +26 14 4·2 |
| | 54 Ophiuchi | 4·2 | 8·0 | +0·1 | 76 48 6·5 | ...... | ...... | ...... | ...... | + 0 52·2 | ............ | +13 16 27·3 |
| | $\nu^1$ Draconis | 40·3 | 43·1 | 0·0 | 34 47 42·1 | ...... | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 43·2 |
| | 84 Herculis | 45·5 | 48·9 | +0·1 | 65 40 47·2 | ...... | 56·9 | 29·57 | 57·6 | + 0 34·8 | ............ | +24 24 4·0 |
| | (i) ν Herculis | 30·1 | 33·0 | +0·1 | 59 52 32·1 | + 0·1 | ...... | ...... | ...... | + 0 27·3 | ............ | +30 12 26·5 |
| July 13 | Sun North Limb | 29·9 | 31·5 | +0·1 | 67 56 30·5 | ...... | 64·5 | 29·51 | 63·0 | + 0 37·3 | 2·8 | +22 8 18·2 |
| | (k) Moon North Limb | 19·4 | ...... | +0·3 | 97 16 21·1 | + 3·1 | ...... | ... .. | ...... | + 1 50·8 | ............ | − 7 12 49·0 |
| | (l) ...................... | ...... | 30·6 | +0·3 | 97 16 28·9 | − 4·6 | ...... | ...... | ...... | + 1 50·8 | ............ | − 7 12 49·1 |
| | (m) ...................... | 33·3 | 36·7 | +0·3 | 97 16 35·0 | −12·4 | 59·7 | 29·58 | 60·4 | + 1 50·8 | ............ | − 7 12 47·4 |
| | α Coronæ Borealis | 55·8 | 57·3 | +0·1 | 62 49 56·7 | ...... | 56·3 | 29·66 | 58·5 | + 0 31·1 | ............ | +27 14 58·2 |
| | λ Serpentis | 19·0 | 21·5 | +0·1 | 82 13 20·7 | ...... | ...... | ...... | ... .. | + 1 3·3 | ............ | + 7 51 2·0 |
| | (n) Nadir | 58·1<br>62·5 | 62·9<br>67·6 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 63·4<br>58·3 | 68·3<br>63·6 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | (g) 43 Serpentis | 47·0 | 50·2 | +0·2 | 84 38 49·0 | 0·0 | ...... | ..... | ...... | + 1 9·0 | ............ | + 5 25 28·0 |
| | (o) 10 Herculis | 23·0 | 26·8 | +0·1 | 66 10 24·9 | + 0·1 | ...... | .. ... | ...... | + 0 35·6 | ............ | +23 54 25·4 |
| | (i) 9 Herculis | 34·5 | 37·0 | +0·2 | 84 38 36·2 | 0·0 | ...... | ...... | ...... | + 1 8·9 | ............ | + 5 25 40·9 |
| | ξ Coronæ Borealis | 13·8 | 15·5 | +0·1 | 58 49 14·9 | ...... | 56·8 | 29·67 | 57·4 | + 0 26·1 | ............ | +31 15 45·0 |
| | 33 Herculis | 24·9 | 27·0 | +0·2 | 82 38 26·4 | ...... | ...... | ...... | ...... | + 1 4·2 | ...... ..... | + 7 25 55·4 |
| | 50 Herculis | 8·7 | 11·4 | +0·1 | 60 0 10·1 | ...... | ...... | ...... | ...... | + 0 27·6 | ............ | +30 4 48·3 |
| | (g) 59 Herculis | 56·7 | 60·5 | +0·1 | 56 16 58·3 | + 0·5 | ...... | ...... | ...... | + 0 23·2 | ............ | +33 48 4·0 |

(a) At $19^{h}\ 6^{m}\ 45^{s}$.
(b) Wire III.
(c) At $15^{h}\ 50^{m}$.
(d) At $11^{h}\ 15^{m}\ 42^{s}$.
(e) At $11^{h}\ 16^{m}\ 23^{s}$.
(f) At $11^{h}\ 17^{m}$.
(g) Wire V.
(h) $1^{m}\ 20^{s}$ after transit.
(i) Wire IV.
(k) At $12^{h}\ 9^{m}\ 58^{s}$.
(l) At $12^{h}\ 10^{m}\ 28^{s}$.
(m) At $12^{h}\ 10^{m}\ 58^{s}$.
(n) At $15^{h}\ 50^{m}$.
(o) Wire II.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ′ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| July 13 | (*a*) A.S.C. 1956 | 13·6 | 16·2 | +0·2 | 90 44 15·2 | 0·0 | ...... | ...... | ...... | + 1 26·1 | 304 8 2·8 | − 0 40 15·3 |
|  | A.S.C. 1963 | 23·9 | 26·5 | +0·1 | 53 56 25·0 | ...... | ...... | ...... | ...... | + 0 20·5 | ............ | +36 8 40·5 |
|  | 37 Ophiuchi | 35·5 | 38·0 | +0·1 | 79 17 37·3 | ...... | ...... | ...... | ...... | + 0 57·3 | ............ | +10 46 51·4 |
|  | 41 Ophiuchi | 44·0 | 46·0 | +0·2 | 90 19 45·2 | ...... | ...... | ...... | ...... | + 1 25·0 | ............ | − 0 15 44·2 |
|  | σ Ophiuchi | 15·9 | 18·1 | +0·2 | 85 47 16·8 | ...... | 55·6 | 29·70 | 57·0 | + 1 12·0 | ............ | + 4 16 57·2 |
|  | λ Herculis | 48·0 | 49·5 | +0·1 | 63 50 48·7 | ...... | ...... | ...... | ...... | + 0 32·6 | ............ | +26 14 4·7 |
|  | 54 Ophiuchi | 4·1 | 7·9 | +0·1 | 76 48 6·4 | ...... | ...... | ...... | ...... | + 0 52·6 | ............ | +13 16 27·0 |
|  | ν¹ Draconis | 40·4 | 43·1 | 0·0 | 34 47 42·2 | ...... | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 43·1 |
|  | ω Draconis | 43·8 | 47·0 | −0·3 | 21 15 45·0 | ...... | ...... | ...... | ...... | − 0 13·1 | ............ | +68 49 54·1 |
|  | (*b*) τ Ophiuchi | 55·0 | 56·0 | +0·3 | 98 13 56·0 | 0·0 | ...... | ...... | ...... | + 1 57·2 | ............ | − 8 10 27·2 |
|  | 97 Herculis | 9·0 | 11·5 | +0·1 | 67 9 10·5 | ...... | ...... | ...... | ...... | + 0 37·2 | ............ | +22 55 38·3 |
|  | 71 Ophiuchi | 13·0 | 15·1 | +0·1 | 81 21 13·9 | ...... | ...... | ...... | ...... | + 1 1·7 | ............ | + 8 43 10·4 |
|  | (*c*) 101 Herculis | 10·0 | 12·0 | +0·1 | 70 3 11·4 | + 0·1 | ...... | ...... | ...... | + 0 41·4 | ............ | +20 1 33·1 |
|  | μ¹ Sagittarii | 2·7 | 3·8 | +0·5 | 111 7 3·4 | ...... | ...... | ...... | ...... | + 4 2·3 | ............ | −21 5 39·7 |
|  | (*d*) η Serpentis | 51·7 | 54·6 | +0·3 | 92 59 53·5 | 0·0 | ...... | ...... | ...... | + 1 34·5 | ............ | − 2 56 2·0 |
|  | 6 Aquilæ | 20·1 | 22·2 | +0·3 | 94 58 21·7 | ...... | 54·2 | 29·71 | 56·2 | + 1 42·2 | ............ | − 4 54 37·9 |
|  | Saturn Centre | 52·2 | 54·0 | +0·5 | 112 32 54·0 | ...... | ...... | ...... | ...... | + 4 31·8 | ............ | −22 31 59·8 |
|  | 113 Herculis | 44·0 | 47·1 | +0·1 | 67 37 46·1 | ...... | ...... | ...... | ...... | + 0 37·9 | ............ | +22 27 2·0 |
|  | 12 Aquilæ | 54·0 | 58·0 | +0·3 | 96 0 56·1 | ...... | ...... | ...... | ...... | + 1 46·7 | ............ | − 5 57 16·8 |
|  | 15 Aquilæ | 20·1 | 21·7 | +0·3 | 94 19 21·3 | ...... | ...... | ...... | ...... | + 1 39·6 | ............ | − 4 15 34·9 |
|  | 18 Aquilæ | 22·8 | 26·1 | +0·1 | 79 14 24·7 | ...... | ...... | ...... | ...... | + 0 57·4 | ............ | +10 50 3·9 |
|  | Piazzi VI. 334 S.P. | 7·0 | 12·8 | −0·5 | 351 18 9·7 | ...... | ...... | ...... | ...... | − 0 53·1 | ............ | +81 11 50·6 |
|  | 1 Sagittæ | 2·8 | 5·6 | +0·1 | 69 7 3·9 | ...... | ...... | ...... | ...... | + 0 40·1 | ............ | +20 57 42·0 |
|  | Jupiter Centre | 44·8 | 44·7 | +0·5 | 112 36 44·9 | ...... | 53·9 | 29·73 | 54·9 | + 4 33·7 | ............ | +22 35 52·6 |
| July 14 | Sun South Limb | 46·4 | 50·2 | +0·1 | 68 36 48·1 | ...... | 58·5 | 29·87 | 57·3 | + 0 39·2 | 2·2 | +21 27 58·1 |
|  | (*b*) Venus Centre | 48·9 | 53·0 | +0·1 | 75 20 50·9 | 0·0 | 57·0 | 29·90 | 56·8 | + 0 50·1 | ............ | +14 43 44·4 |
|  | (*e*) Moon North Limb | 12·0 | ...... | +0·4 | 103 12 12·6 | + 2·1 | ...... | ...... | ...... | + 2 28·5 | ............ | −13 9 17·8 |
|  | (*f*) ...................... | 22·4 | 23·6 | +0·4 | 103 12 23·0 | − 8·9 | ...... | ...... | ...... | + 2 28·5 | ............ | −13 9 17·2 |
|  | (*g*) α Ursæ Minoris S.P. | 3·3 | 9·4 | −0·6 | 358 34 5·9 | − 2·1 | 58·0 | 29·95 | 58·4 | − 0 40·9 | ............ | +88 27 57·5 |
|  | (*h*) Nadir | 56·4<br>61·8 | 62·2<br>67·2 | −0·1 | 214 8 2·1 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ...................... | 62·5<br>57·5 | 68·5<br>63·1 | −0·1 | 214 8 2·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | 9 Herculis | 32·8 | 36·1 | +0·2 | 84 38 34·9 | ...... | 53·5 | 29·98 | 56·2 | + 1 10·1 | ............ | + 5 25 40·4 |
|  | ν¹ Coronæ Borealis | 31·2 | 33·0 | +0·1 | 55 54 32·3 | ...... | ...... | ...... | ...... | + 0 23·1 | ............ | +34 10 30·0 |
|  | 25 Herculis | 36·8 | 39·3 | +0·1 | 52 19 38·2 | ...... | ...... | ...... | ...... | + 0 19·0 | ............ | +37 45 25·2 |
|  | 28 Herculis | 34·9 | 36·1 | +0·2 | 84 12 36·1 | ...... | ...... | ...... | ...... | + 1 9·1 | ............ | + 5 51 40·2 |
|  | 33 Herculis | 23·5 | 25·4 | +0·2 | 82 38 24·9 | ...... | ...... | ...... | ...... | + 1 5·3 | ............ | + 7 25 55·2 |
|  | 18 Draconis | 8·1 | 11·1 | −0·2 | 25 12 9·0 | ...... | ...... | ...... | ...... | − 0 9·1 | ............ | +64 53 25·5 |
|  | 50 Herculis | 6·9 | 8·4 | +0·1 | 60 0 7·7 | ...... | ...... | ...... | ...... | + 0 28·1 | ............ | +30 4 49·6 |
|  | 53 Herculis | 55·9 | 58·0 | +0·1 | 58 6 56·7 | ...... | ...... | ...... | ...... | + 0 25·8 | ............ | +31 58 2·9 |
|  | 59 Herculis | 56·0 | 58·6 | +0·1 | 56 16 57·0 | ...... | ...... | ...... | ...... | + 0 23·6 | ............ | +33 48 4·8 |
|  | (*d*) A.S.C. 1963 | 22·0 | 24·9 | +0·1 | 53 56 23·3 | + 0·1 | ...... | ...... | ...... | + 0 20·9 | ............ | +36 8 41·1 |
|  | 41 Ophiuchi | 42·0 | 43·4 | +0·2 | 90 19 42·9 | ...... | 52·6 | 29·99 | 53·0 | + 1 26·4 | ............ | − 0 15 43·9 |
|  | A.S.C. 2003 | 29·8 | 30·1 | +0·1 | 69 51 29·8 | ...... | ...... | ...... | ...... | + 0 41·7 | ............ | +20 13 13·9 |
|  | ν² Draconis | 21·5 | 24·0 | 0·0 | 34 48 23·0 | ...... | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 1·7 |
|  | ω Draconis | 43·5 | 46·5 | −0·3 | 21 15 44·6 | ...... | ...... | ...... | ...... | − 0 13·2 | ............ | +68 49 54·0 |
|  | ζ Serpentis | 11·0 | 12·9 | +0·3 | 93 44 12·4 | ...... | ...... | ...... | ...... | + 1 38·6 | ............ | − 3 40 25·6 |
|  | τ Ophiuchi | 51·7 | 53·0 | +0·3 | 98 13 52·9 | ...... | ...... | ...... | ...... | + 1 59·1 | ............ | − 8 10 26·6 |
|  | 96 Herculis | 24·5 | 27·0 | +0·1 | 69 14 26·0 | ...... | ...... | ...... | ...... | + 0 40·8 | ............ | +20 50 18·6 |
|  | 72 Ophiuchi | 33·0 | 35·3 | +0·1 | 80 31 34·0 | ...... | ...... | ...... | ...... | + 1 1·0 | ............ | + 9 32 50·4 |
|  | 101 Herculis | 8·6 | 10·8 | +0·1 | 70 3 10·1 | ...... | 51·4 | 30·00 | 52·2 | + 0 42·1 | ............ | +20 1 33·2 |
|  | η Serpentis | 50·3 | 53·6 | +0·3 | 92 59 52·3 | ...... | ...... | ...... | ...... | + 1 35·9 | ............ | − 2 56 2·8 |
|  | Groomb. 1151 S.P. | 34·0 | 39·1 | −0·5 | 348 12 36·5 | ...... | ...... | ...... | ...... | − 0 59·9 | ............ | +78 6 11·2 |
|  | δ Ursæ Minoris | 19·4 | 24·5 | −0·5 | 3 30 21·4 | ...... | ...... | ...... | ...... | − 0 34·4 | ............ | +86 35 38·4 |

(*a*) Wire V.
(*b*) Wire III.

(*c*) Wire II.
(*d*) Wire IV.

(*e*) At $13^h 3^m 56^s$.
(*f*) At $13^h 4^m 43^s$.

(*g*) At $13^h 9^m 40^s$.
(*h*) At $15^h 55^m$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| July 14 | 1 Aquilæ | 17·7 | 19·0 | +0·3 | 98 24 18·8 | ...... | ...... | ...... | ...... | + 2 0·0 | 304 8 2·2 | − 8 20 53·4 |
|  | 6 Aquilæ | 17·0 | 19·4 | +0·3 | 94 58 18·8 | ...... | ...... | ...... | ...... | + 1 43·8 | ............ | − 4 54 37·2 |
|  | Saturn Centre | 12·0 | 13·5 | +0·5 | 112 33 13·6 | ...... | ...... | ...... | ...... | + 4 36·1 | ............ | −22 32 24·3 |
|  | 113 Herculis | 42·2 | 45·0 | +0·1 | 67 37 44·1 | ...... | ...... | ...... | ...... | + 0 38·5 | ............ | +22 27 2·8 |
|  | 12 Aquilæ | 51·2 | 54·6 | +0·3 | 96 0 53·0 | ...... | ...... | ...... | ...... | + 1 48·4 | ............ | − 5 57 16·0 |
|  | 15 Aquilæ | 16·6 | 18·1 | +0·3 | 94 19 17·8 | ...... | ...... | ...... | ...... | + 1 41·2 | ............ | − 4 15 33·6 |
|  | 18 Aquilæ | 21·2 | 23·6 | +0·1 | 79 14 22·6 | ...... | ...... | ...... | ...... | + 0 58·3 | ............ | +10 50 4·5 |
|  | Piazzi VI. 334 S.P. | 8·1 | 14·0 | −0·5 | 351 18 10·9 | ...... | ...... | ...... | ...... | − 0 53·9 | ............ | +81 11 51·6 |
|  | η Lyræ | 21·6 | 24·9 | +0·1 | 51 12 22·9 | ...... | ...... | ...... | ...... | + 0 17·9 | ............ | +38 52 44·6 |
|  | 54 Draconis | 17·2 | 20·0 | −0·1 | 32 39 18·6 | ...... | ...... | ...... | ...... | − 0 1·5 | ............ | +57 26 8·3 |
|  | Jupiter Centre | 43·6 | 46·4 | +0·5 | 112 37 45·9 | ...... | 51·1 | 30·01 | 51·7 | + 4 38·3 | ............ | −22 36 58·8 |
| July 15 | Sun North Limb | 29·5 | 32·1 | +0·1 | 68 14 31·0 | ...... | 61·8 | 30·05 | 59·8 | + 0 38·7 | 2·8 | +21 50 16·3 |
|  | Venus Centre | 7·8 | 12·0 | +0·1 | 75 46 9·8 | ...... | 64·5 | 30·04 | 62·5 | + 0 50·4 | ............ | +14 18 25·8 |
|  | (*a*) Moon North Limb | 57·7 | ...... | +0·4 | 108 18 58·5 | +11·8 | ...... | ...... | ...... | + 3 17·6 | ............ | −18 17 1·9 |
|  | (*b*) ...................... | 7·6 | ...... | +0·4 | 108 19 8·4 | + 4·1 | ...... | ...... | ...... | + 3 17·6 | ............ | −18 17 4·1 |
|  | (*c*) ...................... | ...... | 13·3 | +0·4 | 108 19 13·6 | − 0·4 | ...... | ...... | ...... | + 3 17·6 | ............ | −18 17 4·8 |
|  | (*d*) ...................... | 16·0 | 16·5 | +0·4 | 108 19 16·8 | − 8·0 | 63·0 | 30·00 | 61 5 | + 3 17·6 | ............ | −18 17 0·4 |
|  | α Bootis | 22·9 | 26·0 | +0·1 | 70 4 24·7 | ...... | ...... | ...... | ...... | + 0 41·1 | ............ | +20 0 20·2 |
|  | (*e*) Nadir | 57·2<br>63·0 | 61·8<br>67·4 | −0·1 | 214 8 2·6 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ...................... | 63·5<br>58·6 | 68·1<br>63·5 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | (*f*) $\nu^1$ Coronæ Borealis | 32·0 | 34·8 | +0·1 | 55 54 33·6 | + 0·5 | ...... | ...... | ...... | + 0 22·8 | ............ | +34 10 29·1 |
|  | (*g*) $\nu^2$ Coronæ Borealis | 31·7 | 35·0 | +0·1 | 56 0 33·3 | + 0·1 | ...... | ...... | ...... | + 0 23·0 | ............ | +34 4 29·6 |
|  | 25 Herculis | 37·2 | 41·8 | +0·1 | 52 19 39·7 | ...... | 60·0 | 30·01 | 60·9 | + 0 18·8 | ............ | +37 45 27·5 |
|  | 28 Herculis | 34·6 | 38·5 | +0·2 | 84 12 37·2 | ...... | ...... | ...... | ...... | + 1 8·2 | ............ | + 5 51 40·6 |
|  | σ Herculis | 10·1 | 14·4 | +0·1 | 47 19 12·5 | ...... | ...... | ...... | ...... | + 0 13·4 | ............ | +42 46 0·1 |
|  | 50 Herculis | 7·2 | 11·2 | +0·1 | 60 0 9·3 | ...... | ...... | ...... | ...... | + 0 27·7 | ............ | +30 4 49·0 |
|  | 53 Herculis | 56·8 | 60·6 | +0·1 | 58 6 58·4 | ...... | ...... | ...... | ...... | + 0 25·4 | ............ | +31 58 2·2 |
|  | 32 Ophiuchi | 6·1 | 10·6 | +0·1 | 75 45 8·4 | ...... | ...... | ...... | ...... | + 0 50·7 | ............ | +14 19 26·9 |
|  | ι Ursæ Minoris | 33·3 | 39·9 | −0·5 | 7 48 36·3 | ...... | ...... | ...... | ...... | − 0 28·2 | ............ | +82 17 17·9 |
|  | δ Herculis | 0·8 | 4·9 | +0·1 | 65 3 3·3 | ...... | ...... | ...... | ...... | + 0 34·2 | ............ | +25 1 48·5 |
|  | A.S.C. 2003 | 30·6 | 32·9 | +0·1 | 69 51 31·6 | ...... | 60·5 | 29·99 | 60·0 | + 0 41·0 | ............ | +20 13 13·4 |
|  | $\nu^2$ Draconis | 20·9 | 24·8 | 0·0 | 34 48 23·1 | ...... | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 2·2 |
|  | 66 Ophiuchi | 13·0 | 16·1 | +0·2 | 85 41 14·5 | ...... | ...... | ...... | ...... | + 1 11·8 | ............ | + 4 22 59·7 |
|  | 96 Herculis | 24·0 | 29·1 | +0·1 | 69 14 26·7 | ...... | ...... | ...... | ...... | + 0 40·1 | ............ | +20 50 19·2 |
|  | 72 Ophiuchi | 33·9 | 37·1 | +0·1 | 80 31 35·3 | ...... | ...... | ...... | ...... | + 0 59·9 | ............ | + 9 32 50·8 |
|  | 101 Herculis | 9·8 | 13·0 | +0·1 | 70 3 11·8 | ...... | ...... | ...... | ...... | + 0 41·3 | ............ | +20 1 32·9 |
|  | 36 Draconis | 48·2 | 52·0 | −0·2 | 25 44 49·9 | ...... | ...... | ...... | ...... | − 0 8·4 | ............ | +64 20 44·5 |
|  | Groomb. 1151 S.P. | 30·6 | 37·0 | −0·5 | 348 12 33·7 | ...... | ...... | ...... | ...... | − 0 58·9 | ............ | +78 6 8·8 |
|  | δ Ursæ Minoris | 18·7 | 24·2 | −0·5 | 3 30 20·9 | ...... | ...... | ...... | ...... | − 0 33·8 | ............ | +86 35 38·9 |
|  | 51 (Hev.) Cephei S.P. | 43·2 | 48·0 | −0·6 | 357 21 44·7 | ...... | 60·2 | 29·99 | 59·7 | − 0 42·7 | ............ | +87 15 36·0 |
|  | (*f*) 6 Aquilæ | 18·6 | 21·6 | +0·3 | 94 58 20·7 | − 0·1 | ...... | ...... | ...... | + 1 42·0 | ............ | − 4 54 36·6 |
|  | (*h*) 5 Lyræ preceding | 56·9 | 62·1 | +0·1 | 50 38 0·0 | + 0·6 | ...... | ...... | ...... | + 0 17·0 | ............ | +39 27 8·4 |
|  | Saturn Centre | 42·9 | 44·1 | +0·5 | 112 33 44·2 | ...... | ...... | ...... | ...... | + 4 33·1 | ............ | −22 32 51·3 |
|  | (*f*) $\theta^1$ Serpentis | 55·3 | 58·3 | +0·2 | 86 3 57·2 | + 0·1 | ...... | ...... | ...... | + 1 13·0 | ............ | + 4 0 15·7 |
|  | (*g*) $\theta^2$ Serpentis | 1·5 | 4·2 | +0·2 | 86 4 3·2 | 0·0 | ...... | ...... | ...... | + 1 13·0 | ............ | + 4 0 9·8 |
|  | 48 Draconis | 55·2 | 59·4 | −0·1 | 32 28 57·4 | ...... | ...... | ...... | ...... | − 0 1·6 | ............ | +57 36 30·2 |
|  | λ Aquilæ | 26·6 | 29·8 | +0·3 | 95 10 28·4 | ...... | ...... | ...... | ...... | + 1 43·2 | ............ | − 5 6 45·6 |
|  | 22 Aquilæ | 26·1 | 29·0 | +0·2 | 85 30 27·7 | ...... | ...... | ...... | ...... | + 1 11·7 | ............ | + 4 33 46·6 |
|  | 54 Draconis | 16·0 | 19·8 | −0·1 | 32 39 17·9 | ...... | ...... | ...... | ...... | − 0 1·5 | ............ | +57 26 9·6 |
|  | Jupiter Centre | 54·2 | 56·8 | +0·5 | 112 38 56·2 | ...... | 56·9 | 29·98 | 58·9 | + 4 35·0 | ............ | −22 38 5·2 |
| July 16 | Sun South Limb | 35·2 | 38·4 | +0·1 | 68 55 36·8 | ...... | 64·7 | 29·86 | 60·6 | + 0 39·1 | 2·6 | +21 9 9·9 |
|  | Venus Centre | 47·8 | 53·0 | +0·1 | 76 11 50·2 | ...... | 71·6 | 29·84 | 64·2 | + 0 50·1 | ............ | +13 52 45·5 |

(*a*) At $13^h\ 58^m\ 6^s$.
(*b*) At $13^h\ 58^m\ 48^s$.

(*c*) At $13^h\ 59^m\ 12^s$.
(*d*) At $13^h\ 59^m\ 48^s$.

(*e*) At $14^h\ 25^m$.
(*f*) Wire I.

(*g*) Wire IV.
(*h*) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ' " | " | ° | In. | ° | ' " | ° ' " | ° ' " |
| July 16 | δ Ursæ Majoris ....... | 46·0 | 49·7 | −0·1 | 32 10 47·6 | ...... | ...... | ...... | ...... | − 0 1·9 | 304 8 2·6 | +57 54 40·1 |
|  | (a) Moon North Limb... | 38·8 | ...... | +0·5 | 112 20 39·8 | + 9·3 | ...... | ...... | ...... | + 4 22·5 | ............ | −22 19 45·8 |
|  | (b) ......................... | 44·2 | ...... | +0·5 | 112 20 45·2 | + 3·8 | ...... | ...... | ...... | + 4 22·5 | ............ | −22 19 45·7 |
|  | (c) ......................... | ...... | 50·7 | +0·5 | 112 20 50·4 | + 0·3 | ...... | ...... | ...... | + 4 22·5 | ............ | −22 19 47·4 |
|  | (d) ......................... | 53·8 | 55·1 | +0·5 | 112 20 54·8 | − 5·6 | 64·5 | 29·80 | 64·2 | + 4 22·5 | ............ | −22 19 45·9 |
|  | α Coronæ Borealis ... | 55·7 | 57·3 | +0·1 | 62 49 56·6 | ...... | 63·0 | ...... | ...... | + 0 30·9 | ............ | +27 14 58·3 |
|  | (e) Nadir ............... | 57·5<br>62·1 | 62·0<br>67·1 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ......................... | 63·0<br>58·0 | 68·6<br>63·7 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | (f) ν² Coronæ Borealis ... | 30·8 | 32·7 | +0·1 | 56 0 31·8 | + 0·5 | ...... | ...... | ...... | + 0 22·7 | ............ | +34 4 30·8 |
|  | (g) ν¹ Coronæ Borealis... | 31·0 | 33·9 | +0·1 | 55 54 32·6 | + 0·1 | 61·4 | 29·79 | 62·2 | + 0 22·6 | ............ | +34 10 30·5 |
|  | (f) 52 Herculis............ | 27·9 | 32·0 | 0·0 | 43 49 30·0 | + 0·7 | ...... | ...... | ...... | + 0 9·7 | ............ | +46 15 45·4 |
|  | 53 Herculis............ | 55·3 | 58·5 | +0·1 | 58 6 56·6 | ...... | ...... | ...... | ...... | + 0 25·2 | ............ | +31 58 4·0 |
|  | 32 Ophiuchi............ | 5·7 | 9·9 | +0·1 | 75 45 7·9 | ...... | ...... | ...... | ...... | + 0 50·4 | ........ ... | +14 19 27·5 |
|  | ε Ursæ Minoris ....... | 33·5 | 39·0 | −0·5 | 7 48 36·0 | ...... | ...... | ...... | ...... | − 0 28·1 | ............ | +82 17 17·9 |
|  | δ Herculis.............. | 0·0 | 3·9 | +0·1 | 65 3 2·4 | ...... | 59·0 | 29·79 | 60·7 | + 0 34·0 | ............ | +25 1 49·4 |
|  | A.S.C. 2003 ........... | 30·0 | 31·4 | +0·1 | 69 51 30·5 | ...... | ...... | ...... | ...... | + 0 40·9 | ............ | +20 13 14·4 |
|  | ν² Draconis............. | 20·4 | 24·0 | 0·0 | 34 48 22·5 | ...... | ...... | ...... | ...... | + 0 0·7 | ............ | +55 17 2·6 |
|  | (f) 66 Ophiuchi ........... | 11·9 | 15·4 | +0·2 | 85 41 13·6 | 0·0 | ...... | ...... | ...... | + 1 11·7 | ............ | + 4 23 0·5 |
|  | 68 Ophiuchi ........... | 9·2 | 13·1 | +0·2 | 88 45 11·3 | ...... | ...... | ...... | ...... | + 1 20·2 | ............ | + 1 18 54·3 |
|  | 36 Draconis............ | 47·1 | 50·8 | −0·2 | 25 44 48·8 | ...... | ...... | ...... | ...... | − 0 8·4 | ............ | +64 20 45·4 |
|  | A.S.C. 2117 ........... | 8·9 | 12·2 | +0·1 | 66 52 10·3 | ...... | 56·4 | 29·79 | 59·0 | + 0 36·7 | ............ | +23 12 38·8 |
|  | δ Ursæ Minoris ....... | 18·0 | 23·9 | −0·5 | 3 30 20·4 | ...... | ...... | ...... | ...... | − 0 33·8 | ............ | +86 35 39·2 |
|  | 51 (Hev.) Cephei S.P. | 43·9 | 48·3 | −0·6 | 357 21 45·2 | ...... | ...... | ...... | ...... | − 0 42·7 | ............ | +87 15 36·7 |
|  | (f) 110 Herculis .......... | 39·5 | 42·2 | +0·1 | 69 40 40·8 | + 0·3 | ...... | ...... | ...... | + 0 40·8 | ............ | +20 24 3·9 |
|  | 46 Draconis............ | 24·8 | 28·0 | 0·0 | 34 42 26·0 | ...... | ...... | ...... | ...... | + 0 0·6 | ............ | +55 22 59·2 |
|  | Saturn Centre......... | 7·5 | 10·5 | +0·5 | 112 34 9·7 | ...... | ...... | ...... | ...... | + 4 32·2 | ............ | −22 33 16·1 |
|  | (f) θ² Serpentis ............ | 59·5 | 62·9 | +0·2 | 86 4 1·6 | 0·0 | ...... | ...... | ...... | + 1 12·9 | ............ | + 4 0 11·3 |
|  | (g) θ¹ Serpentis ............ | 53·5 | 56·8 | +0·2 | 86 3 55·5 | 0·0 | ...... | ...... | ...... | + 1 12·9 | ............ | + 4 0 17·4 |
|  | 48 Draconis............ | 54·6 | 58·6 | −0·1 | 32 28 56·7 | ...... | ...... | ...... | ...... | − 0 1·6 | ............ | +57 36 30·7 |
|  | λ Aquilæ.............. | 25·2 | 27·2 | +0·3 | 95 10 26·4 | ...... | ...... | ...... | ...... | + 1 43·0 | ............ | − 5 6 43·6 |
|  | 22 Aquilæ ............. | 26·2 | 29·1 | +0·2 | 85 30 27·8 | ...... | ...... | ...... | ...... | + 1 11·5 | ............ | + 4 33 46·5 |
|  | Jupiter Centre........ | 57·8 | 60·0 | +0·5 | 112 39 59·4 | .. ... | ...... | ...... | ...... | + 4 34·6 | ............ | −22 39 8·2 |
|  | 31 Aquilæ ............. | 38·9 | 41·2 | +0·1 | 78 27 40·6 | ...... | 55·2 | 29·78 | 57·7 | + 0 55·9 | ............ | +11 36 49·3 |
| July 19 | Venus Centre ......... | 46·0 | 50·1 | +0·1 | 77 30 48·0 | ...... | 56·8 | 29·66 | 56·8 | + 0 53·7 | 2·5 | +12 33 44·0 |
|  | (h) α Ursæ Minoris S.P. | 22·1 | 27·2 | −0·6 | 358 34 24·2 | −20·2 | 55·7 | 29·64 | 57·3 | − 0 40·7 | ............ | +88 27 57·6 |
| July 20 | (g) Mercury Centre....... | 34·8 | 37·0 | +0·1 | 70 57 36·4 | + 0·3 | 60·0 | 29·55 | 57·6 | + 0 42·1 | ............ | +19 7 6·9 |
| July 21 | Sun North Limb...... | 17·9 | 20·9 | +0·1 | 69 17 19·1 | ...... | 59·1 | 29·57 | 58·2 | + 0 39·7 | 2·4 | +20 47 26·8 |
|  | Venus Centre ......... | 56·8 | 59·2 | +0·1 | 78 24 58·1 | ...... | 58·2 | 29·58 | 57·7 | + 0 55·1 | ............ | +11 39 32·4 |
|  | (i) Nadir ............... | 57·0<br>62·8 | 62·2<br>67·2 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ......................... | 62·8<br>57·5 | 68·4<br>62·9 | −0·1 | 214 8 2·3 | ...... | ...... | ...... | ...... | ......... | ............ | .... .......... |
|  | (k) α Ursæ Minoris S.P. | 6·7 | 11·1 | −0·6 | 358 34 8·5 | − 2·0 | 58·0 | 29·61 | 58·9 | − 0 40·5 | ............ | +88 28 0·4 |
|  | ν² Coronæ Borealis... | 31·0 | 33·6 | +0·1 | 56 0 32·3 | ...... | 54·4 | 29·64 | 56·3 | + 0 22·9 | ............ | +34 4 30·4 |
|  | 52 Herculis............ | 28·5 | 32·5 | +0·1 | 43 49 30·7 | ...... | ...... | ...... | ...... | + 0 9·8 | ............ | +46 15 45·1 |
|  | ι Ophiuchi ............. | 37·0 | 40·3 | +0·1 | 79 38 39·0 | ...... | ...... | ...... | ...... | + 0 58·0 | ............ | +10 25 48·6 |
|  | 32 Ophiuchi............ | 5·5 | 9·1 | +0·1 | 75 45 7·4 | ...... | ...... | ...... | ...... | + 0 50·7 | ............ | +14 19 27·5 |
|  | ε Ursæ Minoris ....... | 31·4 | 37·4 | −0·5 | 7 48 34·1 | ...... | ...... | ...... | ...... | − 0 28·2 | ............ | +82 17 19·7 |
|  | α Herculis ............. | 1·1 | 5·0 | +0·1 | 75 30 3·1 | ...... | 54·8 | 29·66 | 55·5 | + 0 50·2 | ............ | +14 34 32·3 |
|  | α Ophiuchi............. | 41·2 | 43·8 | +0·1 | 77 23 42·8 | ...... | ...... | ...... | ...... | + 0 53·7 | ............ | +12 40 49·1 |
|  | (f) 66 Ophiuchi........... | 12·0 | 14·0 | +0·2 | 85 41 13·0 | 0·0 | ...... | ...... | ...... | + 1 11·8 | ............ | + 4 23 0·8 |

(a) At 14$^h$ 54$^m$ 40$^s$.
(b) At 14$^h$ 55$^m$ 24$^s$.
(c) At 14$^h$ 55$^m$ 50$^s$.
(d) At 14$^h$ 56$^m$ 30$^s$.

(e) At 15$^h$ 55$^m$.
(f) Wire I.
(g) Wire IV.

(h) At 12$^h$ 44$^m$ 10$^s$.
(i) At 10$^h$ 40$^m$.
(k) At 12$^h$ 57$^m$ 40$^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| July 21 | (*a*) 67 Ophiuchi | 26·2 | 28·0 | +0·2 | 87 7 26·9 | 0·0 | …… | …… | …… | + 1 15·7 | 304 8 2·4 | + 2 56 43·0 |
| | (*b*) 106 Herculis | 42·8 | 45·6 | +0·1 | 68 10 44·2 | + 0·3 | …… | …… | …… | + 0 38·7 | ………… | +21 54 2·4 |
| | 107 Herculis | 53·0 | 56·1 | +0·1 | 61 16 54·3 | …… | 53·5 | 29·68 | 54·6 | + 0 29·4 | ………… | +28 48 1·9 |
| | δ Ursæ Minoris | 16·5 | 22·1 | −0·5 | 3 30 18·7 | …… | …… | …… | …… | − 0 33·9 | ………… | +86 35 40·8 |
| | 51 (Hev.) Cephei S.P. | 41·0 | 45·6 | −0·6 | 357 21 42·4 | …… | …… | …… | …… | − 0 42·8 | ………… | +87 15 34·0 |
| | (*b*) ε Lyræ, preceding | 30·9 | 34·0 | +0·1 | 50 34 32·6 | + 0·6 | …… | …… | …… | + 0 16·9 | ………… | +39 30 35·5 |
| | (*c*) 5 Lyræ, preceding | 55·0 | 58·5 | +6·1 | 50 37 57·2 | + 0·2 | …… | …… | …… | + 0 17·0 | ………… | +39 27 11·2 |
| | (*b*) $\theta^1$ Serpentis | 52·9 | 55·2 | +0·2 | 86 3 54·4 | 0·0 | …… | …… | …… | + 1 13·1 | ………… | + 4 0 18·1 |
| | (*c*) $\theta^2$ Serpentis | 58·4 | 60·8 | +0·2 | 86 4 0·0 | 0·0 | …… | …… | …… | + 1 13·1 | ………… | + 4 0 12·5 |
| | 14 Aquilæ | 59·0 | 61·5 | +0·3 | 93 59 0·7 | …… | …… | …… | …… | + 1 38·4 | ………… | − 3 55 13·5 |
| | 22 Aquilæ | 23·8 | 26·5 | +0·2 | 85 30 25·3 | …… | …… | …… | …… | + 1 11·6 | ………… | + 4 33 48·7 |
| | Jupiter Centre | 11·3 | 13·4 | +0·5 | 112 45 12·8 | …… | …… | …… | …… | + 4 37·0 | ………… | −22 44 24·2 |
| | 59 Draconis | 1·0 | 5·2 | −0·4 | 13 48 3·0 | …… | …… | …… | …… | − 0 21·3 | ………… | +76 17 43·9 |
| | 31 Aquilæ | 39·0 | 41·0 | +0·1 | 78 27 40·5 | …… | 52·7 | 29·68 | 53·6 | + 0 56·0 | ………… | +11 36 49·1 |
| | 8 Vulpeculæ | 50·2 | 53·5 | +0·1 | 65 37 52·3 | …… | …… | …… | …… | + 0 35·2 | ………… | +24 26 58·1 |
| | A.S.C. 2283 | 40·9 | 43·2 | +0·1 | 69 28 42·4 | …… | …… | …… | …… | + 0 40·7 | ………… | +20 36 2·5 |
| | 9 Vulpeculæ | 35·1 | 36·1 | +0·1 | 70 38 35·9 | …… | …… | …… | …… | + 0 42·5 | ………… | +19 26 7·2 |
| | θ Cygni | 42·0 | 44·3 | 0·0 | 40 13 43·4 | …… | …… | …… | …… | + 0 6·1 | ………… | +49 51 36·1 |
| | χ Aquilæ | 45·3 | 47·2 | +0·1 | 78 36 46·0 | …… | …… | …… | …… | + 0 56·3 | ………… | +11 27 43·3 |
| | A.S.C. 2315 | 3·3 | 5·1 | +0·1 | 63 19 4·5 | …… | …… | …… | …… | + 0 32·1 | ………… | +26 45 49·0 |
| | (*d*) Moon South Limb | 28·2 | …… | +0·5 | 112 18 30·3 | − 9·6 | …… | …… | …… | + 4 27·6 | ………… | −22 17 22·7 |
| | (*e*) ………… | 22·6 | …… | +0·5 | 112 18 24·7 | − 3·1 | …… | …… | …… | + 4 27·6 | ………… | −22 17 23·6 |
| | (*f*) ………… | …… | 16·5 | +0·5 | 112 18 16·0 | + 3·1 | …… | …… | …… | + 4 27·6 | ………… | −22 17 21·1 |
| | (*g*) ………… | 10·4 | 13·0 | +0·5 | 112 18 12·5 | + 9·0 | …… | …… | …… | + 4 27·6 | ………… | −22 17 23·5 |
| | ξ Aquilæ | 44·0 | 48·0 | +0·1 | 82 0 46·0 | …… | …… | …… | …… | + 1 3·5 | ………… | + 8 3 36·1 |
| | 10 Sagittæ | 12·9 | 16·0 | +0·1 | 73 51 14·3 | …… | …… | …… | …… | + 0 47·7 | ………… | +16 13 23·6 |
| | χ Sagittæ | 7·0 | 10·0 | +0·1 | 72 59 8·8 | …… | …… | …… | …… | + 0 46·3 | ………… | +17 5 30·5 |
| | 16 Vulpeculæ | 40·8 | 42·8 | +0·1 | 65 34 42·0 | …… | …… | …… | …… | + 0 35·2 | ………… | +24 30 8·4 |
| | 64 Aquilæ | 26·0 | 28·0 | +0·2 | 91 11 26·9 | …… | …… | …… | …… | + 1 28·4 | ………… | − 1 7 29·7 |
| | 69 Draconis | 21·5 | 25·5 | −0·4 | 14 3 23·4 | …… | …… | …… | …… | − 0 21·0 | ………… | +76 2 23·2 |
| | $\alpha^2$ Capricorni | 30·6 | 31·4 | +0·4 | 103 4 31·5 | …… | …… | …… | …… | + 2 28·3 | ………… | −13 1 34·2 |
| | ϱ Capricorni | 41·7 | 41·9 | +0·4 | 108 21 41·9 | …… | 50·8 | 29·67 | 52·8 | + 3 21·8 | ………… | −18 19 38·1 |
| July 22 | Sun South Limb | 30·7 | 33·5 | +0·1 | 70 0 32·1 | …… | 58·0 | 29·86 | 57·3 | + 0 41·3 | 3·2 | +20 4 13·0 |
| | Venus Centre | 27·5 | 30·6 | +0·1 | 78 52 28·7 | …… | 59·0 | 29·83 | 58·0 | + 0 56·3 | ………… | +11 12 1·4 |
| | (*h*) α Ursæ Minoris S.P. | 8·6 | 14·2 | −0·6 | 358 34 10·9 | − 5·2 | 58·1 | 29·84 | 58·9 | − 0 40·8 | ………… | +88 27 58·5 |
| | (*b*) 49 Herculis | 55·6 | 58·5 | +0·1 | 74 49 57·2 | + 0·2 | …… | …… | …… | + 0 49·6 | ………… | +15 14 39·4 |
| | (*c*) 51 Herculis | 12·8 | 17·0 | +0·1 | 65 9 15·1 | + 0·1 | 53·0 | 29·88 | 55·6 | + 0 34·7 | ………… | +24 55 36·5 |
| | A.S.C 1956 | 10·5 | 13·8 | +0·2 | 90 44 12·5 | …… | …… | …… | …… | + 1 27·3 | ………… | − 0 40 13·4 |
| | ε Ursæ Minoris | 33·0 | 39·1 | −0·5 | 7 48 35·8 | …… | …… | …… | …… | − 0 28·6 | ………… | +82 17 19·2 |
| | α Herculis | 1·0 | 5·5 | +0·1 | 75 30 3·3 | …… | …… | …… | …… | + 0 50·8 | ………… | +14 34 32·3 |
| | α Ophiuchi | 40·1 | 43·8 | +0·1 | 77 23 42·3 | …… | …… | …… | …… | + 0 54·3 | ………… | +12 40 49·8 |
| | (*i*) Nadir | 58·0<br>63·1 | 62·3<br>68·0 | −0·1 | 214 8 3·1 | …… | …… | …… | …… | ……… | ………… | …………… |
| | ………… | 63·9<br>59·0 | 68·7<br>64·0 | −0·1 | 214 8 3·3 | …… | …… | …… | …… | ……… | ………… | …………… |
| | (*b*) ν Herculis | 28·4 | 31·0 | +0·1 | 59 52 29·4 | + 0·4 | …… | …… | …… | + 0 27·8 | ………… | +30 12 28·8 |
| | (*c*) 93 Herculis | 40·9 | 43·1 | +0·1 | 73 18 42·3 | + 0·1 | 52·5 | 29·90 | 55·2 | + 0 47·1 | ………… | +16 45 56·9 |
| | (*b*) 106 Herculis | 43·9 | 46·1 | +0·1 | 68 10 45·0 | + 0·3 | …… | …… | …… | + 0 39·1 | ………… | +21 54 2·0 |
| | 107 Herculis | 53·4 | 55·8 | +0·1 | 61 16 54·4 | …… | …… | …… | …… | + 0 29·7 | ………… | +28 48 2·3 |
| | δ Ursæ Minoris | 17·1 | 22·8 | −0·5 | 3 30 19·4 | …… | …… | …… | …… | − 0 34·2 | ………… | +86 35 41·2 |
| | 1 Aquilæ | 19·3 | 21·0 | +0·3 | 98 24 20·5 | …… | …… | …… | …… | + 1 59·4 | ………… | − 8 20 53·5 |
| | 5 Lyræ, preceding | 55·5 | 60·0 | +0·1 | 50 37 58·2 | …… | …… | …… | …… | + 0 17·1 | ………… | +39 27 11·1 |
| | Saturn Centre | 30·0 | 31·2 | +0·5 | 112 36 30·8 | …… | …… | …… | …… | + 4 36·1 | ………… | −22 35 40·5 |
| | 9 Aquilæ | 15·4 | 19·0 | +0·3 | 96 6 17·3 | …… | …… | …… | …… | + 1 48·3 | ………… | − 6 2 39·2 |
| | 14 Aquilæ | 0·8 | 3·2 | +0·3 | 93 59 2·5 | …… | 51·7 | 29·90 | 54·5 | + 1 39·4 | ………… | − 3 55 15·5 |

(*a*) Wire V.
(*b*) Wire I.
(*c*) Wire IV.

(*d*) At $19^h\,41^m\,20^s$.
(*e*) At $19^h\,42^m\,2^s$.
(*f*) At $19^h\,42^m\,46^s$.

(*g*) At $19^h\,43^m\,38^s$.
(*h*) At $12^h\,54^m$.
(*i*) At $17^h\,40^m$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| July 22 | Jupiter Centre | 10·6 | 13·0 | +0·5 | 112 46 12·1 | …… | …… | …… | …… | + 4 40·1 | 304 8 3·2 | −22 45 25·8 |
|  | 59 Draconis | 2·0 | 6·2 | −0·4 | 13 48 4·0 | …… | …… | …… | …… | − 0 21·5 | ………… | +76 17 43·9 |
|  | 31 Aquilæ | 38·2 | 41·3 | +0·1 | 78 27 40·3 | …… | …… | …… | …… | + 0 56·5 | ………… | +11 36 49·6 |
|  | (*a*) 8 Vulpeculæ | 50·0 | 53·8 | +0·1 | 65 37 52·4 | + 0·1 | …… | …… | …… | + 0 35·5 | ………… | +24 26 58·4 |
|  | A.S.C. 2283 | 41·9 | 45·0 | +0·1 | 69 28 43·8 | …… | …… | …… | …… | + 0 41·1 | ………… | +20 36 1·5 |
|  | 9 Vulpeculæ | 33·8 | 36·0 | +0·1 | 70 38 35·2 | …… | …… | …… | …… | + 0 42·9 | ………… | +19 26 8·3 |
|  | θ Cygni | 41·9 | 44·8 | 0·0 | 40 13 43·6 | …… | …… | …… | …… | + 0 6·2 | ………… | +49 51 36·6 |
|  | χ Aquilæ | 44·2 | 46·7 | +0·1 | 78 36 45·2 | …… | …… | …… | …… | + 0 56·9 | ………… | +11 27 44·3 |
|  | A.S.C. 2315 | 3·2 | 4·6 | +0·1 | 63 19 4·2 | …… | …… | …… | …… | + 0 32·4 | ………… | +26 45 49·8 |
|  | ζ Sagittæ | 30·0 | 31·6 | +0·1 | 71 19 31·0 | …… | …… | …… | …… | + 0 44·0 | ………… | +18 45 11·4 |
|  | η Aquilæ | 32·7 | 34·2 | +0·2 | 89 27 34·1 | …… | …… | …… | …… | + 1 23·7 | ………… | + 0 36 28·6 |
|  | φ Aquilæ | 43·2 | 46·9 | +0·1 | 79 3 45·4 | …… | …… | …… | …… | + 0 57·8 | ………… | +11 0 43·2 |
|  | χ Sagittæ | 7·0 | 9·3 | +0·1 | 72 59 8·4 | …… | …… | …… | …… | + 0 46·7 | ………… | +17 5 31·3 |
|  | 16 Vulpeculæ | 40·1 | 42·2 | +0·1 | 65 34 41·3 | …… | …… | …… | …… | + 0 35·5 | ………… | +24 30 9·6 |
|  | 64 Aquilæ | 25·4 | 28·0 | +0·2 | 91 11 26·6 | …… | …… | …… | …… | + 1 29·4 | ………… | − 1 7 29·6 |
|  | 69 Draconis | 22·8 | 26·4 | −0·4 | 14 3 24·5 | …… | 50·0 | 29·89 | 53·1 | − 0 21·2 | ………… | +76 2 23·1 |
|  | α² Capricorni | 28·4 | 30·0 | +0·4 | 103 4 29·7 | …… | …… | …… | …… | + 2 29·6 | ………… | −13 1 32·9 |
|  | Groomb. 1431 S.P. | 5·1 | 9·1 | −0·5 | 352 53 6·9 | …… | …… | …… | …… | − 0 50·9 | ………… | +82 46 49·6 |
|  | ϱ Capricorni | 41·4 | 42·6 | +0·4 | 108 21 42·1 | …… | …… | …… | …… | + 3 22·8 | ………… | −18 19 38·5 |
|  | η Delphini | 52·2 | 57·1 | +0·1 | 77 34 54·8 | …… | …… | …… | …… | + 0 55·0 | ………… | +12 29 36·6 |
|  | (*b*) Moon North Limb | 36·2 | …… | +0·4 | 108 4 37·7 | − 6·0 | …… | …… | …… | + 3 19·1 | ………… | −18 2 24·4 |
|  | (*c*) ………… | …… | 33·0 | +0·4 | 108 4 32·5 | …… | …… | …… | …… | + 3 19·1 | ………… | −18 2 25·2 |
|  | (*d*) ………… | 22·6 | 24·6 | +0·4 | 108 4 24·1 | + 7·2 | …… | …… | …… | + 3 19·1 | ………… | −18 2 24·0 |
|  | μ Aquarii | 21·3 | 23·1 | +0·4 | 99 37 22·2 | …… | …… | …… | …… | + 2 6·7 | ………… | − 9 34 2·5 |
|  | A.S.C. 2476, follow. | 57·2 | 59·0 | +0·2 | 86 7 58·7 | …… | …… | …… | …… | + 1 14·2 | ………… | + 3 56 13·5 |
|  | λ Equulei, following | 16·8 | 19·8 | +0·2 | 83 30 18·4 | …… | …… | …… | …… | + 1 7·6 | ………… | + 6 34 0·4 |
|  | 29 Capricorni | 40·1 | 41·8 | +0·4 | 105 51 41·1 | …… | 49·9 | 29·90 | 52·5 | + 2 54·2 | ………… | −15 49 8·9 |
| July 23 | Sun North Limb | 0·4 | 3·3 | +0·1 | 69 41 1·8 | …… | 66·4 | 29·90 | 60·2 | + 0 40·2 | 3·4 | +20 23 44·6 |
|  | Venus Centre | 17·2 | 20·6 | +0·1 | 79 20 18·9 | …… | 71·0 | 29·88 | 63·0 | + 0 56·0 | ………… | +10 44 11·7 |
|  | α Ursæ Minoris S.P. | 58·8 | 66·0 | −0·6 | 358 34 2·0 | …… | 72·7 | 29·88 | 69·2 | − 0 39·7 | ………… | +88 27 55·7 |
|  | (*e*) 49 Herculis | 57·5 | 61·8 | +0·1 | 74 49 59·8 | + 0·2 | …… | …… | …… | + 0 48·5 | ………… | +15 14 38·1 |
|  | (*a*) 51 Herculis | 14·8 | 19·0 | +0·1 | 65 9 17·1 | + 0·1 | 64·0 | 29·85 | 64·6 | + 0 33·9 | ………… | +24 55 35·5 |
|  | (*f*) ε Ursæ Minoris | 32·8 | 39·2 | −0·5 | 7 48 35·7 | …… | …… | …… | …… | − 0 27·9 | ………… | +82 17 18·8 |
|  | α Herculis | 2·8 | 8·3 | +0·1 | 75 30 5·6 | …… | …… | …… | …… | + 0 49·6 | ………… | +14 34 31·4 |
|  | α Ophiuchi | 42·8 | 46·3 | +0·1 | 77 23 44·9 | …… | …… | …… | …… | + 0 53·1 | ………… | +12 40 48·6 |
|  | (*g*) Nadir | 57·2<br>62·8 | 63·1<br>68·5 | −0·1 | 214 8 3·1 | …… | …… | …… | …… | ……… | ………… | …………… |
|  | ………… | 63·5<br>58·0 | 70·2<br>65·3 | −0·1 | 214 8 3·6 | …… | …… | …… | …… | ……… | ………… | …………… |
|  | ι Herculis | 29·9 | 32·4 | +0·1 | 59 52 30·8 | …… | …… | …… | …… | + 0 27·2 | ………… | +30 12 28·6 |
|  | (*h*) 93 Herculis | 41·9 | 45·0 | +0·1 | 73 18 43·8 | + 0·2 | 63·0 | 29·84 | 63·0 | + 0 46·0 | ………… | +16 45 56·6 |
|  | (*e*) 106 Herculis | 45·0 | 48·6 | +0·1 | 68 10 46·8 | + 0·3 | …… | …… | …… | + 0 38·2 | ………… | +21 54 1·3 |
|  | 107 Herculis | 54·0 | 57·9 | +0·1 | 61 16 55·7 | …… | …… | …… | …… | + 0 29·0 | ………… | +28 48 1·9 |
|  | δ Ursæ Minoris | 16·0 | 23·0 | −0·5 | 3 30 18·9 | …… | …… | …… | …… | − 0 33·5 | ………… | +86 35 41·2 |
|  | 51 (Hev.) Cephei S.P. | 41·0 | 45·7 | −0·6 | 357 21 42·4 | …… | …… | …… | …… | − 0 42·3 | ………… | +87 15 33·5 |
|  | ε Lyræ, preceding | 32·1 | 35·5 | +0·1 | 50 34 34·0 | …… | …… | …… | …… | + 0 16·7 | ………… | +39 30 35·9 |
|  | Saturn Centre | 59·6 | 61·5 | +0·5 | 112 37 0·7 | …… | …… | …… | …… | + 4 30·9 | ………… | −22 36 5·0 |
|  | 9 Aquilæ | 17·0 | 20·8 | +0·3 | 96 6 19·0 | …… | …… | …… | …… | + 1 46·1 | ………… | − 6 2 38·5 |
|  | 14 Aquilæ | 2·0 | 5·0 | +0·3 | 93 59 4·0 | …… | 60·9 | 29·85 | 60·9 | + 1 37·4 | ………… | − 3 55 14·8 |
|  | Jupiter Centre | 17·0 | 18·0 | +0·5 | 112 47 17·6 | …… | …… | …… | …… | + 4 34·7 | ………… | −22 46 25·7 |
|  | 3 Vulpeculæ | 57·2 | 59·5 | +0·1 | 64 6 58·1 | …… | …… | …… | …… | + 0 32·7 | ………… | +25 57 55·8 |
|  | 3 Cygni | 47·5 | 51·1 | +0·1 | 65 26 49·1 | …… | …… | …… | …… | + 0 34·5 | ………… | +24 38 3·0 |
|  | A.S.C. 2283 | 43·4 | 46·2 | +0·1 | 69 28 45·1 | …… | …… | …… | …… | + 0 40·3 | ………… | +20 36 1·2 |
|  | 9 Vulpeculæ | 36·0 | 38·2 | +0·1 | 70 38 37·4 | …… | …… | …… | …… | + 0 42·0 | ………… | +19 26 7·2 |
|  | (*a*) 42 Aquilæ | 15·5 | 17·0 | +0·3 | 95 3 16·9 | 0·0 | …… | …… | …… | + 1 41·8 | ………… | − 4 59 32·1 |

(*a*) Wire IV.
(*b*) At $20^h 32^m 42^s$.
(*c*) At $20^h 33^m 16^s$.
(*d*) At $20^h 34^m$.
(*e*) Wire I.
(*f*) At $17^h 3^m 45^s$.
(*g*) At $17^h 40^m$.
(*h*) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| July 23 | 45 Aquilæ | 43·1 | 46·1 | +0·3 | 91 2 45·3 | ...... | ...... | ...... | ...... | + 1 27·0 | 304 8 3·4 | − 0 58 45·7 |
|  | χ Aquilæ | 46·5 | 49·9 | +0·1 | 78 36 48·0 | ...... | ...... | ...... | ...... | + 0 55·8 | ............ | +11 27 42·8 |
|  | A.S.C. 2315 | 4·5 | 6·9 | +0·1 | 63 19 6·0 | ...... | ...... | ...... | ...... | + 0 31·7 | ............ | +26 45 48·9 |
|  | ζ Sagittæ | 31·8 | 33·3 | +0·1 | 71 19 32·7 | ...... | ...... | ...... | ...... | + 0 43·1 | ............ | +18 45 10·8 |
|  | 12 Vulpeculæ | 52·5 | 55·1 | +0·1 | 67 51 53·6 | ...... | ...... | ...... | ...... | + 0 38·0 | ............ | +22 12 55·0 |
|  | 13 Vulpeculæ | 21·1 | 25·1 | +0·1 | 66 24 23·3 | ...... | ...... | ...... | ...... | + 0 35·9 | ............ | +23 40 27·4 |
|  | 10 Sagittæ | 14·5 | 18·0 | +0·1 | 73 51 16·1 | ...... | ...... | ...... | ...... | + 0 47·2 | ............ | +16 13 23·3 |
|  | χ Sagittæ | 8·2 | 11·9 | +0·1 | 72 59 10·3 | ...... | ...... | ...... | ...... | + 0 45·8 | ............ | +17 5 30·5 |
|  | 16 Vulpeculæ | 41·6 | 44·7 | +0·1 | 65 34 43·3 | ...... | 59·4 | 29·85 | 59·5 | + 0 34·8 | ............ | +24 30 8·5 |
|  | 64 Aquilæ | 27·0 | 29·9 | +0·2 | 91 11 28·4 | ...... | ...... | ...... | ...... | + 1 27·5 | ............ | − 1 7 29·3 |
|  | 69 Draconis | 22·0 | 26·2 | −0·4 | 14 3 24·0 | ...... | ...... | ...... | ...... | − 0 20·8 | ............ | +76 2 23·4 |
|  | 21 Vulpeculæ | 35·0 | 36·9 | +0·1 | 61 51 35·8 | ...... | ...... | ...... | ...... | + 0 29·9 | ............ | +28 13 20·9 |
|  | (a) 18 Sagittæ | 30·6 | 33·8 | +0·1 | 68 57 32·7 | + 0·1 | ...... | ...... | ...... | + 0 39·6 | ............ | +21 7 14·2 |
|  | λ Ursæ Minoris | 46·6 | 52·5 | −0·5 | 1 15 48·9 | ...... | ...... | ...... | ...... | − 0 36·8 | ............ | +88 50 14·5 |
|  | η Delphini | 54·4 | 59·0 | +0·1 | 77 34 56·8 | ...... | ...... | ...... | ...... | + 0 53·9 | ............ | +12 29 35·9 |
|  | 70 Aquilæ | 12·2 | 14·9 | +0·3 | 93 9 14·0 | ...... | ...... | ...... | ...... | + 1 34·5 | ............ | − 3 5 21·9 |
|  | κ Delphini | 10·6 | 15·0 | +0·1 | 80 32 12·5 | ...... | ...... | ...... | ...... | + 0 59·7 | ............ | + 9 32 14·4 |
|  | 10 Delphini | 52·7 | 57·2 | +0·1 | 76 2 55·4 | ...... | ...... | ...... | ...... | + 0 51·1 | ............ | +14 1 40·1 |
|  | δ Delphini | 39·1 | 43·6 | +0·1 | 75 33 41·7 | ...... | ...... | ...... | ...... | + 0 50·2 | ............ | +14 30 54·7 |
|  | μ Aquarii | 24·0 | 26·3 | +0·4 | 99 37 25·1 | ...... | ...... | ...... | ...... | + 2 4·2 | ............ | − 9 34 2·7 |
|  | A.S.C. 2476 follow. | 59·0 | 61·8 | +0·2 | 86 8 1·0 | ...... | ...... | ...... | ...... | + 1 12·8 | ............ | + 3 56 12·8 |
|  | (a) λ Equulei, following | 17·8 | 20·4 | +0·2 | 83 30 19·2 | 0·0 | 58·6 | 29·84 | 58·8 | + 1 6·3 | ............ | + 6 34 1·1 |
|  | 29 Capricorni | 44·7 | 46·0 | +0·4 | 105 51 45·4 | ...... | ...... | ...... | ...... | + 2 50·8 | ............ | −15 49 9·6 |
|  | (b) Moon North Limb | 56·5 | ...... | +0·4 | 103 37 58·0 | − 8·5 | ...... | ...... | ...... | + 2 31·1 | ............ | −13 34 54·0 |
|  | (c) ...................... | ...... | 49·5 | +0·4 | 103 37 49·6 | + 0·2 | ...... | ...... | ...... | + 2 31·1 | ............ | −13 34 54·3 |
|  | (d) ...................... | 40·1 | 41·5 | +0·4 | 103 37 41·6 | + 7·8 | ...... | ...... | ...... | + 2 31·1 | ............ | −13 34 53·9 |
|  | λ Capricorni | 14·5 | 15·9 | +0·4 | 102 8 15·9 | ...... | 58·6 | 29·82 | 58·8 | + 2 20·0 | ............ | −12 5 9·3 |
| July 25 | (e) Sun South Limb | 33·3 | 34·3 | +0·1 | 70 37 34·3 | 0·0 | 57·5 | 29·68 | 58·8 | + 0 42·0 | 3·3 | +19 27 10·2 |
| July 26 | Sun North Limb | 3·9 | 8·1 | +0·1 | 70 19 6·3 | ...... | 60·0 | 29·76 | 59·7 | + 0 41·4 | 3·2 | +19 45 38·7 |
|  | (f) Venus Centre | 6·2 | 10·8 | +0·1 | 80 45 8·6 | − 0·3 | 58·2 | 29·79 | 59·3 | + 1 0·2 | ............ | + 9 19 17·9 |
|  | α Ursæ Minoris S.P. | 3·1 | 10·0 | −0·6 | 358 34 6·1 | ...... | 58·8 | 29·80 | 59·3 | − 0 40·7 | ............ | +88 27 59·0 |
|  | α Herculis | 59·7 | 64·0 | +0·1 | 75 30 1·9 | ...... | 57·5 | 29·85 | 58·6 | + 0 50·3 | ............ | +14 34 34·2 |
|  | α Ophiuchi | 39·5 | 43·9 | +0·1 | 77 23 42·0 | ...... | ...... | ...... | ...... | + 0 53·7 | ............ | +12 40 50·7 |
|  | (g) Nadir | 58·5<br>64·2 | 62·4<br>67·2 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ...................... | 64·3<br>59·4 | 68·1<br>63·2 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | (h) δ Ursæ Minoris | 15·0 | 20·8 | −0·5 | 3 30 17·3 | + 0·2 | 55·9 | 29·86 | 58·1 | − 0 33·9 | ............ | +86 35 42·8 |
| July 27 | Sun South Limb | 55·8 | 58·0 | +0·1 | 71 3 57·2 | ...... | 62·1 | 29·88 | 60·0 | + 0 42·6 | 2·6 | +19 0 46·0 |
|  | α Ursæ Minoris S.P. | 3·0 | 9·0 | −0·6 | 358 34 5·6 | ...... | 62·7 | 29·84 | 62·3 | − 0 40·4 | ............ | +88 27 59·4 |
|  | 49 Herculis | 56·4 | 59·0 | +0·1 | 74 49 57·8 | ...... | ...... | ...... | ...... | + 0 48·9 | ............ | +15 14 39·1 |
|  | (i) ι Ophiuchi | 35·9 | 40·0 | +0·1 | 79 38 38·3 | + 0·3 | 59·5 | 29·86 | 60·0 | + 0 57·9 | ............ | +10 25 49·3 |
|  | (f) α Herculis | 0·1 | 5·0 | +0·1 | 75 30 2 6 | + 0·2 | ...... | ...... | ...... | + 0 50·1 | ............ | +14 34 32·9 |
|  | (g) Nadir | 57·0<br>62·5 | 61·9<br>67·4 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | ...................... | 63·0<br>57·6 | 68·4<br>64·0 | −0·1 | 214 8 2·6 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
|  | (k) 67 Ophiuchi | 26·1 | 28·5 | +0·2 | 87 7 27·0 | 0·0 | ...... | ...... | ...... | + 1 15·5 | ............ | + 2 56 43·3 |
|  | (f) 93 Herculis | 40·0 | 42·9 | +0·1 | 73 18 41·8 | + 0·2 | 57·8 | 29·87 | 58·9 | + 0 46·5 | ............ | +16 45 57·3 |
|  | κ Lyræ | 6·8 | 11·0 | +0·1 | 54 5 9·0 | ...... | ...... | ...... | ...... | + 0 20·7 | ............ | +35 59 56·1 |
|  | δ Ursæ Minoris | 15·2 | 21·0 | −0·5 | 3 30 17·5 | ...... | ...... | ...... | ...... | − 0 33·9 | ............ | +86 35 42·2 |
|  | 51 (Hev.) Cephei S.P. | 39·7 | 43·3 | −0·6 | 357 21 40·6 | ...... | ...... | ...... | ...... | − 0 42·7 | ............ | +87 15 32·1 |
|  | 110 Herculis | 36·9 | 40·1 | +0·1 | 69 40 38·5 | ...... | ...... | ...... | ...... | + 0 40·9 | ............ | +20 24 6·4 |

(a) Wire IV.
(b) At 21$^{h}$ 20$^{m}$ 30$^{s}$.
(c) At 21$^{h}$ 21$^{m}$ 16$^{s}$.
(d) At 21$^{h}$ 21$^{m}$ 56$^{s}$.
(e) Wire III.
(f) Wire V.
(g) At 17$^{h}$ 40$^{m}$.
(h) At 18$^{h}$ 25$^{m}$ 30$^{s}$.
(i) 1$^{m}$ after transit.
(k) Wire I.

| Date. | Object Observed. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | | ° | ′ ″ | ° ′ ″ | ° ′ |
| July 27 | Saturn Centre········ | 28·8 | 29·2 | +0·5 | 112 38 29·8 | ······ | ······ | ······ | ······ | + 4 33·8 | 304 8 2·6 | −22 37 37·8 |
| | (*a*) 9 Aquilæ··············· | 15·8 | 19·8 | +0·3 | 96 6 17·9 | − 0·1 | ······ | ······ | ······ | + 1 47·1 | ············ | − 6 2 39·1 |
| | (*b*) 64 Serpentis··········· | 59·3 | 64·0 | +0·2 | 87 44 2·0 | 0·0 | 56·5 | 29·86 | 57·2 | + 1 17·5 | ············ | + 2 20 6·3 |
| | Jupiter Centre ········ | 0·7 | 2·2 | +0·5 | 112 51 1·8 | ······ | ······ | ······ | ······ | + 4 38·9 | ············ | −22 50 14·9 |
| July 28 | Venus North Limb·· | 41·9 | 47·0 | +0·1 | 81 42 45·0 | ······ | 62·4 | 29·62 | 61·0 | + 1 1·4 | 3·0 | + 8 21 39·8 |
| | α Ursæ Minoris S.P. | 2·3 | 9·1 | −0·6 | 358 34 5·3 | ······ | 64·5 | 29·60 | 62·8 | − 0 39·9 | ············ | +88 27 59·2 |
| | ι Ophiuchi··············· | 36·8 | 40·2 | +0·1 | 79 38 38·9 | ······ | 61·0 | 29·63 | 61·5 | + 0 57·3 | ············ | +10 25 50·0 |
| | (*c*) Nadir ················ | 57·5<br>62·6 | 62·8<br>67·7 | −0·1 | 214 8 2·9 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | ······················ | 63·7<br>58·5 | 68·8<br>64·0 | −0·1 | 214 8 3·1 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | 67 Ophiuchi ··········· | 26·1 | 29·0 | +0·2 | 87 7 27·3 | ······ | 58·9 | 29·67 | 60·8 | + 1 14·9 | ············ | + 2 56 44·0 |
| | δ Ursæ Minoris ······· | 14·5 | 20·5 | −0·5 | 3 30 16·9 | ······ | ······ | ······ | ······ | − 0 33·6 | ············ | +86 35 42·9 |
| | 1 Aquilæ················ | 21·0 | 23·5 | +0·3 | 98 24 22·7 | ······ | ······ | ······ | ······ | + 1 57·1 | ············ | − 8 20 53·6 |
| | 110 Herculis ·········· | 37·5 | 40·6 | +0·1 | 69 40 39·0 | ······ | ······ | ······ | ······ | + 0 40·6 | ············ | +20 24 6·6 |
| | δ² Lyræ·················· | 49·2 | 53·7 | +0·1 | 53 22 52·0 | ······ | 57·0 | 29·67 | 59·2 | + 0 19·8 | ············ | +36 42 14·4 |
| | Jupiter Centre········ | 58·5 | 60·0 | +0·5 | 112 51 59·4 | ······ | ······ | ······ | ······ | + 4 37·2 | ············ | −22 51 10·4 |
| | (*d*) 1 Vulpeculæ ········· | 37·9 | 41·3 | +0·1 | 68 57 40·1 | 0·0 | ······ | ······ | ······ | + 0 39·5 | ············ | +21 7 6·6 |
| | 26 Aquilæ ············· | 50·7 | 54·2 | +0·3 | 95 45 52·6 | ······ | ······ | ······ | ······ | + 1 44·9 | ············ | − 5 42 11·3 |
| | (*a*) ν Aquilæ ··············· | 8·0 | 11·0 | +0·2 | 90 2 9·3 | 0·0 | ······ | ······ | ······ | + 1 23·8 | ············ | + 0 1 53·1 |
| | (*b*) 3 Cygni················ | 45·9 | 48·5 | +0·1 | 65 26 47·0 | + 0·1 | ······ | ······ | ······ | + 0 34·6 | ············ | +24 38 4·5 |
| | ι Cygni··················· | 25·6 | 29·9 | 0·0 | 38 41 27·5 | ······ | ······ | ······ | ······ | + 0 4·5 | ············ | +51 23 54·2 |
| | ϰ Aquilæ················ | 46·6 | 49·4 | +0·3 | 97 25 48·1 | ······ | ······ | ······ | ······ | + 1 52·7 | ············ | − ·7 22 14·6 |
| | 45 Aquilæ ············ | 41·9 | 44·4 | +0·2 | 91 2 43·8 | ······ | ······ | ······ | ······ | + 1 27·2 | ············ | − 0 58 44·8 |
| | 10 Vulpeculæ········ | 48·9 | 51·3 | +0·1 | 64 40 50·0 | ······ | ······ | ······ | ······ | + 0 33·6 | ············ | +25 24 2·6 |
| | 54 Aquilæ ············ | 42·9 | 47·0 | +0·1 | 80 2 45·5 | ······ | ······ | ······ | ······ | + 0 58·8 | ············ | +10 1 41·9 |
| | 56 Aquilæ ············ | 57·5 | 59·9 | +0·4 | 99 1 58·7 | ······ | ······ | ······ | ······ | + 2 1·1 | ············ | − 8 58 33·6 |
| | 10 Sagittæ············ | 12·0 | 15·2 | +0·1 | 73 51 13·5 | ······ | 55·4 | 29·67 | 57·7 | + 0 47·3 | ············ | +16 13 25·4 |
| | A.S.C. 2358 ·········· | 40·7 | 43·2 | +0·1 | 65 42 42·5 | ······ | ······ | ······ | ······ | + 0 35·0 | ············ | +24 22 8·7 |
| | (*b*) 15 Sagittæ············ | 40·0 | 43·0 | +0·1 | 73 25 41·5 | + 0·1 | ······ | ······ | ······ | + 0 46·6 | ············ | +16 38 58·0 |
| July 29 | Sun North Limb····· | 5·0 | 8·0 | +0·1 | 71 0 6·6 | ······ | 58·0 | 29·71 | 57·8 | + 0 42·6 | 3·1 | +19 4 37·1 |
| | (*e*) α Ursæ Minoris S.P. | 6·8 | 13·6 | −0·6 | 358 34 9·8 | − 4·3 | 59·0 | 29·70 | 59·4 | − 0 40·4 | ············ | +88 27 58·8 |
| | α Ophiuchi ··········· | 39·7 | 42·8 | +0·1 | 77 23 41·6 | ······ | 54·5 | 29·76 | 55·9 | + 0 53·9 | ············ | +12 40 50·8 |
| | (*f*) Nadir ··············· | 57·2<br>62·8 | 63·1<br>67·7 | −0·1 | 214 8 3·0 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | ······················ | 63·9<br>59·0 | 68·8<br>64·0 | −0·1 | 214 8 3·2 | ······ | ······ | ······ | ······ | ········· | ············ | ············ |
| | A.S.C. 2117 ·········· | 6·2 | 10·2 | +0·1 | 66 52 7·9 | ······ | ······ | ······ | ······ | + 0 36·9 | ············ | +23 12 41·5 |
| | δ Ursæ Minoris······· | 16·7 | 21·3 | −0·5 | 3 30 18·4 | ······ | ······ | ······ | ······ | − 0 34·0 | ············ | +86 35 41·9 |
| | Saturn Centre········ | 10·8 | 11·9 | +0·5 | 112 39 12·0 | ······ | ······ | ······ | ····· | + 4 35·3 | ············ | −22 38 21·0 |
| | β Lyræ ················· | 52·1 | 55·6 | +0·1 | 56 53 54·2 | ······ | 53·0 | 29·76 | 54·3 | + 0 24·1 | ············ | +33 11 8·0 |
| | 64 Serpentis·········· | 59·3 | 63·0 | +0·2 | 87 44 1·5 | ······ | ······ | ······ | ······ | + 1 17·8 | ············ | + 2 20 7·0 |
| | Jupiter Centre········ | 48·2 | 48·2 | +0·5 | 112 52 49·1 | ······ | ······ | ······ | ······ | + 4 40·8 | ············ | −22 52 3·6 |
| | 1 Vulpeculæ ········· | 37·1 | 39·2 | +0·1 | 68 57 38·7 | ······ | ······ | ······ | ······ | + 0 40·0 | ············ | +21 7 7·6 |
| | 26 Aquilæ ············ | 50·2 | 52·1 | +0·3 | 95 45 51·3 | ······ | ······ | ······ | ······ | + 1 46·1 | ············ | − 5 42 11·1 |
| | ν Aquilæ ·············· | 7·2 | 10·1 | +0·2 | 90 2 8·4 | ······ | ······ | ······ | ······ | + 1 24·7 | ············ | + 0 1 53·2 |
| | ι Cygni··················· | 26·4 | 29·9 | 0·0 | 38 41 27·9 | ······ | ······ | ······ | ······ | + 0 4·6 | ············ | +51 23 53·8 |
| | ι Aquilæ················ | 37·7 | 39·8 | +0·3 | 91 41 38·7 | ······ | ······ | ······ | ······ | + 1 30·3 | ············ | − 1 37 42·7 |
| | 45 Aquilæ ············ | 41·2 | 43·6 | +0·2 | 91 2 43·0 | ······ | ······ | ······ | ······ | + 1 28·1 | ············ | − 0 58 44·8 |
| | 10 Vulpeculæ········ | 49·4 | 52·2 | +0·1 | 64 40 50·7 | ······ | ······ | ······ | ······ | + 0 33·9 | ············ | +25 24 1·7 |
| | 54 Aquilæ ······ ····· | 43·6 | 47·0 | +0·1 | 80 2 45·8 | ······ | ······ | ······ | ······ | + 0 59·3 | ············ | +10 1 41·2 |
| | ξ Aquilæ ··············· | 42·9 | 46·1 | +0·1 | 82 0 44·5 | ······ | 52·3 | 29·75 | 53·5 | + 1 3·6 | ············ | + 8 3 38·2 |
| | A.S.C. 2358·········· | 40·2 | 42·8 | +0·1 | 65 42 42·0 | ······ | ······ | ······ | ······ | + 0 35·4 | ············ | +24 22 8·9 |

(*a*) Wire I.
(*b*) Wire IV.

(*c*) At 17ʰ 40ᵐ.
(*d*) Wire III.

(*e*) At 13ʰ 12ᵐ 25ˢ.
(*f*) At 17ʰ 45ᵐ.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| July 30 | (*a*) Nadir | 58·2<br>62·9 | 62·6<br>67·2 | −0·1 | 214 8 3·0 | ...... | ...... | ...... | ...... | ......... | 304 8 2·7 | ............... |
| | ...................... | 63·5<br>58·2 | 67·7<br>63·0 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | δ Ursæ Minoris | 14·8 | 21·0 | −0·5 | 3 30 17·3 | ...... | 55·5 | 29·85 | 57·6 | − 0 34·0 | ............ | +86 35 42·6 |
| | Saturn Centre | 30·9 | 33·3 | +0·5 | 112 39 32·7 | ...... | ...... | ...... | ...... | + 4 35·2 | ............ | −22 38 42·0 |
| | 64 Serpentis | 58·6 | 63·7 | +0·2 | 87 44 1·5 | ...... | ...... | ..... | ...... | + 1 17·6 | ............ | + 2 20 6·8 |
| | Jupiter Centre | 37·1 | 39·0 | +0·5 | 112 53 38·8 | ...... | ...... | ...... | ...... | + 4 40·6 | ............ | −22 52 53·5 |
| | 53 Draconis | 45·4 | 50·0 | −0·1 | 33 29 47·6 | ...... | ...... | ...... | ...... | − 0 0·6 | ............ | +56 35 38·9 |
| | ν Aquilæ | 6·6 | 10·4 | +0·2 | 90 2 8·3 | ...... | ...... | ...... | ...... | + 1 24·5 | ............ | + 0 1 53·1 |
| | ι Cygni | 25·0 | 29·0 | 0·0 | 38 41 26·7 | ...... | ...... | ...... | ...... | + 0 4·6 | ............ | +51 23 54·6 |
| | ι Aquilæ | 37·3 | 40·1 | +0·3 | 91 41 38·7 | ... .. | ...... | ...... | ...... | + 1 30·1 | ... ........ | − 1 37 42·9 |
| | α Sagittæ | 8·8 | 11·5 | +0·1 | 72 25 10·2 | ...... | ...... | ...... | ...... | + 0 45·3 | ............ | +17 39 30·4 |
| | 10 Vulpeculæ | 47·3 | 50·6 | +0·1 | 64 40 48·9 | ...... | ...... | ...... | ...... | + 0 33·9 | ............ | +25 24 3·1 |
| | 54 Aquilæ | 41·9 | 46·0 | +0·1 | 80 2 44·5 | ...... | ...... | ...... | ...... | + 0 59·2 | ............ | +10 1 42·2 |
| | ξ Aquilæ | 42·0 | 46·0 | +0·1 | 82 0 44·0 | ...... | 54·8 | 29·84 | 56·7 | + 1 3·4 | ............ | + 8 3 38·5 |
| | A.S.C. 2358 | 41·0 | 44·0 | +0·1 | 65 42 43·0 | ...... | ...... | .... . | ...... | + 0 35·3 | ............ | +24 22 7·6 |
| July 31 | (*b*) Moon North Limb | 38·1 | 43·3 | +0·1 | 66 25 40·7 | + 5·6 | 57·6 | 29·98 | 58·0 | + 0 36·3 | 2·6 | +23 39 3·2 |
| Aug. 1 | Venus North Limb | 29·2 | 32·1 | +0·2 | 83 40 30·8 | ...... | 70·5 | 29·93 | 67·4 | + 1 5·3 | ............ | + 6 23 49·7 |
| Aug. 2 | Sun South Limb | 36·9 | 41·8 | +0·1 | 72 30 39·3 | ...... | 69·8 | 29·73 | 64·5 | + 0 43·9 | 2·6 | +17 34 2·6 |
| | (*c*) Nadir | 56·2<br>61·9 | 62·7<br>68·0 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ...................... | 62·8<br>57·9 | 69·0<br>64·2 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ...... | ......... | ....... .... | ............... |
| | δ Ursæ Minoris | 13·6 | 19·8 | −0·5 | 3 30 16·2 | ...... | 60·8 | 29·70 | 62·8 | − 0 33·4 | ............ | +86 35 43·0 |
| | Saturn Centre | 40·7 | 43·5 | +0·5 | 112 40 42·5 | ...... | ...... | ...... | ...... | + 4 31·0 | ............ | −22 39 47·7 |
| | $\delta^2$ Lyræ | 47·9 | 52·9 | +0·1 | 53 22 50·8 | ...... | ...... | ...... | ...... | + 0 19·7 | ............ | +36 42 15·3 |
| | Jupiter Centre | 15·4 | 18·9 | +0·5 | 112 56 17·5 | ...... | ...... | ...... | ...... | + 4 36·9 | ............ | −22 55 28·6 |
| | 53 Draconis | 42·8 | 47·7 | −0·1 | 33 29 45·2 | ...... | ...... | ...... | ...... | − 0 0·6 | ............ | +56 35 41·2 |
| | τ Draconis | 53·0 | 58·8 | −0·3 | 17 1 55·3 | ...... | ...... | ...... | ...... | − 0 17·4 | ............ | +73 3 47·9 |
| | 37 Aquilæ | 4·2 | 6·9 | +0·4 | 100 57 5·6 | ...... | ...... | ...... | ...... | + 2 11·2 | ............ | −10 53 51·0 |
| | ι Aquilæ | 38·2 | 42·0 | +0·3 | 91 41 40·1 | ...... | ...... | ...... | ...... | + 1 28·8 | ............ | − 1 37 43·1 |
| | α Sagittæ | 9·5 | 13·0 | +0·1 | 72 25 11·3 | ...... | ...... | ...... | ...... | + 0 44·6 | ............ | +17 39 29·9 |
| | (*d*) 15 Cygni | 18·9 | 22·0 | +0·1 | 53 6 20·3 | + 0·5 | ...... | ...... | ...... | + 0 19·5 | ............ | +36 58 45·5 |
| | 12 Vulpeculæ | 50·0 | 54·0 | +0·1 | 67 51 51·8 | ...... | ...... | ...... | ...... | + 0 37·8 | ............ | +22 12 56·2 |
| | 58 Aquilæ | 51·0 | 55·7 | +0·2 | 90 11 53·3 | ...... | ...... | ...... | ...... | + 1 24·0 | ........ ... | − 0 7 51·5 |
| | 62 Aquilæ | 25·8 | 28·8 | +0·2 | 91 12 27·1 | ...... | 59·1 | 29·69 | 60·9 | + 1 27·2 | ............ | − 1 8 28·5 |
| | Mercury Centre | 52·4 | 55·9 | +0·1 | 69 4 54·3 | ...... | 64·8 | 29·73 | 62·5 | + 0 39·2 | 2·2 | +20 59 51·9 |
| Aug. 3 | (*e*) Nadir | 57·2<br>62·3 | 61·8<br>66·9 | −0·1 | 214 8 2·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ...................... | 63·0<br>57·4 | 68·0<br>62·8 | −0·1 | 214 8 2·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | δ Ursæ Minoris | 13·0 | 19·0 | −0·5 | 3 30 15·5 | ...... | 60·5 | 29·64 | 61·3 | − 0 33·4 | ............ | +86 35 43·3 |
| | Saturn Centre | 2·0 | 3·6 | +0·5 | 112 41 3·1 | ...... | ...... | ...... | ...... | + 4 30·7 | ............ | −22 40 8·4 |
| | $\delta^2$ Lyræ | 48·4 | 51·5 | +0·1 | 53 22 50·4 | ...... | ...... | ...... | ...... | + 0 19·7 | ............ | +36 42 15·3 |
| | Jupiter Centre | 1·9 | 3·5 | +0·5 | 112 57 2·9 | ...... | ...... | ...... | ...... | + 4 37·0 | ............ | −22 56 14·5 |
| | 53 Draconis | 42·6 | 46·1 | −0·1 | 33 29 44·3 | ...... | ...... | ...... | ...... | − 0 0·6 | ............ | +56 35 41·7 |
| | δ Aquilæ | 41·0 | 45·0 | +0·2 | 87 15 43·1 | ...... | ...... | ...... | ...... | + 1 15·1 | ............ | + 2 48 27·2 |
| | 37 Aquilæ | 4·2 | 5·0 | +0·4 | 100 57 4·7 | ...... | ...... | ...... | ...... | + 2 11·1 | ............ | −10 53 50·4 |
| | (*f*) 9 Cygni | 34·0 | 35·8 | +0·1 | 60 57 35·4 | 0·0 | ...... | ...... | ...... | + 0 28·6 | ............ | +29 7 21·4 |
| | α Sagittæ | 10·9 | 13·1 | +0·1 | 72 25 12·1 | ...... | ...... | ...... | ...... | + 0 44·6 | ............ | +17 39 28·7 |

(*a*) At $17^h\ 45^m$.
(*b*) At $3^h\ 42^m\ 12^s$; cloudy.

(*c*) At $18^h\ 0^m$.
(*d*) Wire V.

(*e*) At $18^h\ 5^m$.
(*f*) Wire III.

| Date. | Object Observed. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ' " | " | " | In. | ° | ' " | ° ' " | ° ' " |
| Aug. 3 | 12 Vulpeculæ | 49·5 | 53·2 | +0·1 | 67 51 51·2 | ...... | ...... | ...... | ...... | + 0 37·8 | 304 8 2·2 | +22 12 56·4 |
| | 13 Vulpeculæ | 17·2 | 20·4 | +0·1 | 66 24 19·0 | ...... | 58·5 | 29·61 | 59·0 | + 0 35·7 | ............ | +23 40 30·7 |
| | 14 Sagittæ | 51·0 | 54·1 | +0·1 | 74 28 52·8 | ...... | ...... | ...... | ...... | + 0 48·0 | ............ | +15 35 44·6 |
| Aug. 4 | α Ursæ Minoris S.P. | 3·7 | 9·6 | −0·6 | 358 34 6·2 | ...... | 62·2 | 29·38 | 62·3 | − 0 39·8 | 2·1 | +88 28 1·1 |
| | (*a*) η Ursæ Majoris | 3·7 | 7·5 | 0·0 | 39 59 5·7 | + 0·1 | 62·2 | ...... | ...... | + 0 5·7 | ............ | +50 6 13·8 |
| | (*b*) Nadir | 56·3<br>62·5 | 61·5<br>66·3 | −0·1 | 214 8 1·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 62·8<br>57·6 | 67·9<br>63·0 | −0·1 | 214 8 2·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | (*c*) δ Ursæ Minoris | 12·0 | 18·0 | −0·5 | 3 30 14·5 | 0·0 | 57·3 | 29·39 | 58·3 | − 0 33·3 | ............ | +86 35 44·1 |
| | Jupiter Centre | 49·6 | 52·0 | +0·5 | 112 57 51·6 | ...... | ...... | ...... | ...... | + 4 36·4 | ............ | −22 57 2·7 |
| | δ Aquilæ | 40·9 | 45·0 | +0·2 | 87 15 43·0 | ...... | ...... | ...... | ...... | + 1 14·8 | ............ | + 2 48 27·5 |
| | μ Aquilæ | 16·1 | 19·3 | +0·2 | 83 1 17·7 | ...... | ...... | ...... | ...... | + 1 4·3 | ............ | + 7 3 3·3 |
| | (*d*) 9 Cygni | 32·8 | 34·6 | +0·1 | 60 57 34·2 | + 0·1 | ...... | ...... | ...... | + 0 28·4 | ............ | +29 7 22·6 |
| | σ Draconis | 54·0 | 58·8 | −0·3 | 20 41 55·8 | ...... | ...... | ...... | ...... | − 0 13·4 | ............ | +69 23 42·9 |
| | (*e*) 56 Aquilæ | 57·6 | 60·6 | +0·4 | 99 1 59·2 | 0·0 | 58·7 | 29·35 | 59·0 | + 1 59·0 | ............ | − 8 58 32·9 |
| | (*f*) 14 Sagittæ | 51·0 | 54·8 | +0·1 | 74 28 53·2 | + 0·2 | ...... | ...... | ...... | + 0 47·6 | ............ | +15 35 44·3 |
| Aug. 5 | Venus North Limb | 47·1 | 51·1 | +0·2 | 85 40 49·2 | ...... | 68·6 | 29·22 | 65·3 | + 1 8·8 | 2·9 | + 4 23 28·1 |
| | (*g*) Nadir | 57·9<br>62·6 | 61·9<br>67·2 | −0·1 | 214 8 2·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 63·5<br>58·9 | 68·8<br>64·0 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | δ Ursæ Minoris | 11·8 | 18·0 | −0·5 | 3 30 14·4 | ...... | 55·4 | 29·37 | 56·5 | − 0 33·4 | ............ | +86 35 45·1 |
| | 46 Draconis | 18·7 | 23·0 | 0·0 | 34 42 20·5 | ...... | ...... | ...... | ...... | + 0 0·6 | ............ | +55 23 5·0 |
| | ο Draconis | 27·5 | 31·1 | −0·1 | 30 53 29·4 | ...... | ...... | ...... | ...... | − 0 3·2 | ............ | +59 11 59·9 |
| | Jupiter Centre | 29·8 | 31·3 | +0·5 | 112 58 31·3 | ...... | 54·7 | 29·38 | 55·6 | + 4 38·6 | ............ | −22 57 43·8 |
| | δ Aquilæ | 40·3 | 43·3 | +0·2 | 87 15 41·9 | ..... | ...... | ...... | ...... | + 1 15·2 | ............ | + 2 48 29·0 |
| | 37 Aquilæ | 3·2 | 5·1 | +0·4 | 100 57 4·2 | ...... | ...... | ...... | ...... | + 2 11·2 | ............ | −10 53 49·3 |
| | 9 Cygni | 33·7 | 35·0 | +0·1 | 60 57 34·8 | ...... | ...... | ...... | ...... | + 0 28·6 | ............ | +29 7 22·7 |
| | σ Draconis | 54·8 | 58·3 | −0·3 | 20 41 55·9 | ...... | ...... | ...... | ...... | − 0 13·5 | ............ | +69 23 43·7 |
| | 56 Aquilæ | 56·5 | 60·1 | +0·4 | 99 1 58·4 | ...... | ...... | ...... | ...... | + 2 0·2 | ............ | − 8 58 32·5 |
| | 62 Aquilæ | 25·2 | 28·1 | +0·2 | 91 12 26·5 | ...... | ...... | ...... | ...... | + 1 27·2 | ............ | − 1 8 27·6 |
| | 20 Vulpeculæ | 58·8 | 60·4 | +0·1 | 64 3 59·9 | ...... | ...... | ...... | ...... | + 0 32·6 | ............ | +26 0 53·6 |
| | 21 Vulpeculæ | 29·5 | 31·8 | +0·1 | 61 51 30·5 | ...... | ...... | ...... | ...... | + 0 29·8 | ............ | +28 13 25·8 |
| | (*d*) 18 Sagittæ | 26·0 | 29·1 | +0·1 | 68 57 27·3 | + 0·1 | 54·0 | 29·40 | 54·9 | + 0 39·4 | ............ | +21 7 19·3 |
| | (*h*) Mercury Centre | 28·9 | 31·0 | +0·1 | 69 12 29·7 | 0·0 | 59·8 | 29·51 | 59·5 | + 0 39·4 | 2·4 | +20 52 16·5 |
| Aug. 6 | Sun North Limb | 46·1 | 49·0 | +0·1 | 73 2 48·0 | ...... | 61·5 | 29·50 | 60·4 | + 0 45·2 | ............ | +17 1 52·4 |
| | (*i*) Nadir | 56·7<br>62·5 | 62·6<br>67·1 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ...................... | 62·8<br>58·1 | 68·2<br>63·3 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | (*k*) δ Ursæ Minoris | 11·0 | 17·8 | −0·5 | 3 30 13·9 | + 0·1 | 55·8 | 29·51 | 58·3 | − 0 33·6 | ............ | +86 35 45·2 |
| | δ Aquilæ | 40·0 | 44·0 | +0·2 | 87 15 42·1 | ...... | 55·7 | 29·51 | 57·8 | + 1 15·4 | ............ | + 2 48 28·1 |
| | 42 Aquilæ | 11·9 | 15·9 | +0·3 | 95 3 14·5 | ...... | ...... | ...... | ...... | + 1 41·6 | ............ | − 4 59 30·5 |
| | σ Draconis | 52·9 | 58·2 | −0·3 | 20 41 55·0 | ...... | ...... | ...... | ..... | − 0 13·5 | ............ | +69 23 44·1 |
| | 58 Aquilæ | 51·6 | 55·7 | +0·2 | 90 11 53·6 | ...... | ...... | ...... | ...... | + 1 24·1 | ............ | − 0 7 52·1 |
| | 62 Aquilæ | 25·5 | 29·0 | +0·2 | 91 12 27·1 | ...... | ...... | ...... | ...... | + 1 27·3 | ............ | − 1 8 28·8 |
| | 20 Vulpeculæ | 58·0 | 61·2 | +0·1 | 64 3 59·9 | ...... | ...... | ...... | ...... | + 0 32·6 | ............ | +26 0 53·1 |
| | (*e*) 21 Vulpeculæ | 29·9 | 32·1 | +0·1 | 61 51 30·9 | + 0·1 | ...... | ...... | ...... | + 0 29·8 | ............ | +28 13 24·8 |
| | 18 Sagittæ | 26·3 | 29·1 | +0·1 | 68 57 27·4 | ...... | 55·2 | 29·51 | 57·4 | + 0 39·4 | ............ | +21 7 18·8 |
| Aug. 9 | Sun South Limb | 59·8 | 63·0 | +0·1 | 74 25 1·5 | ...... | 66·6 | 29·55 | 64·2 | + 0 47·1 | 2·6 | +15 39 37·2 |

(*a*) 18$^{s}$ before transit.
(*b*) At 18$^{h}$ 10$^{m}$.
(*c*) At 18$^{h}$ 24$^{m}$ 25$^{s}$.

(*d*) Wire IV.
(*e*) Wire II.
(*f*) Wire V.

(*g*) At 18$^{h}$ 0$^{m}$.
(*h*) Wire III.

(*i*) At 18$^{h}$ 5$^{m}$.
(*k*) At 18$^{h}$ 23$^{m}$ 40$^{s}$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Aug. 9 | (*a*) α Ursæ Minoris S.P. | 9·1 | 15·9 | −0·6 | 358 34 12·0 | − 3·2 | 67·2 | 29·55 | 65·2 | − 0 39·6 | 304 8 2·6 | +88 28 3·4 |
| | (*b*) Nadir …………… | 56·9<br>62·0 | 62·6<br>67·5 | −0·1 | 214 8 2·4 | …… | …… | …… | …… | ……… | ………… | ………… |
| | …………………… | 62·9<br>58·0 | 68·1<br>63·4 | −0·1 | 214 8 2·7 | …… | …… | …… | …… | ……… | ………… | ………… |
| | δ Ursæ Minoris …… | 10·1 | 18·1 | −0·5 | 3 30 13·6 | …… | 62·0 | 29·52 | 62·8 | − 0 33·1 | ………… | +86 35 45·3 |
| | 46 Draconis ………… | 17·3 | 21·9 | 0·0 | 34 42 19·4 | …… | …… | …… | …… | + 0 0·5 | ………… | +55 23 5·9 |
| | δ Aquilæ…………… | 41·9 | 46·1 | +0·2 | 87 15 44·1 | …… | …… | …… | …… | + 1 14·5 | ………… | + 2 48 27·2 |
| | (*c*) 42 Aquilæ………… | 15·1 | 18·2 | +0·3 | 95 3 17·1 | 0·0 | 62·5 | 29·54 | 62·7 | + 1 40·3 | ………… | − 4 59 31·6 |
| | φ Cygni…………… | 8·5 | 12·9 | +0·1 | 60 17 10·6 | …… | …… | …… | …… | + 0 27·5 | ………… | +29 47 47·7 |
| | (*d*) α Aquilæ…………… | 49·5 | 53·6 | +0·1 | 81 36 51·5 | 0·0 | …… | …… | …… | + 1 1·0 | ………… | + 8 27 33·3 |
| | (*d*) 20 Vulpeculæ……… | 58·2 | 60·6 | +0·1 | 64 3 59·6 | + 0·1 | …… | …… | …… | + 0 32·2 | ………… | +26 0 53·9 |
| | (*e*) ο² Cygni…………… | 4·9 | 9·9 | 0·0 | 43 49 7·5 | + 0·2 | 61·9 | 29·52 | 62·5 | + 0 9·6 | ………… | +46 16 8·5 |
| Aug. 10 | Sun North Limb…… | 48·8 | 52·4 | +0·1 | 74 10 50·6 | …… | 68·2 | 29·44 | 64·4 | + 0 46·3 | 2·6 | +15 53 48·9 |
| Aug. 11 | (*f*) α Ursæ Minoris S.P. | 8·9 | 15·9 | −0·6 | 358 34 11·9 | − 2·5 | 60·6 | 29·49 | 60·8 | − 0 40·1 | ………… | +88 28 3·5 |
| | (*g*) Moon North Limb… | 31·7 | …… | +0·4 | 106 37 31·9 | − 7·4 | …… | …… | …… | + 2 56·1 | ………… | −16 34 54·8 |
| | (*h*) …………………… | 41·8 | 41·9 | +0·4 | 106 37 42·0 | −13·6 | 60·3 | 29·51 | 61·0 | + 2 56·1 | ………… | −16 34 58·7 |
| Aug. 12 | (*c*) 58 Aquilæ ……… | 52·2 | 55·8 | +0·2 | 90 11 54·0 | 0·0 | 62·5 | 29·79 | 62·0 | + 1 23·7 | ………… | − 0 7 51·9 |
| | 14 Sagittæ ………… | 50·1 | 54·0 | +0·1 | 74 28 52·3 | …… | …… | …… | …… | + 0 47·9 | ………… | +15 35 45·6 |
| | (*i*) 22 Vulpeculæ……… | 44·0 | 47·2 | +0·1 | 67 2 45·9 | + 0·3 | …… | …… | …… | + 0 36·5 | ………… | +23 2 3·1 |
| | (*d*) 23 Vulpeculæ……… | 39·5 | 42·0 | +0·1 | 62 44 40·9 | + 0·1 | …… | …… | …… | + 0 30·8 | ………… | +27 20 14·0 |
| | λ Ursæ Minoris …… | 39·0 | 44·5 | −0·5 | 1 15 41·2 | …… | …… | …… | …… | − 0 36·5 | ………… | +88 50 21·1 |
| | η Delphini ………… | 50·7 | 55·0 | +0·1 | 77 34 53·0 | …… | …… | …… | …… | + 0 53·4 | ………… | +12 29 39·4 |
| | 70 Aquilæ………… | 9·3 | 12·9 | +0·3 | 93 9 11·5 | …… | …… | …… | …… | + 1 33·7 | ………… | − 3 5 19·4 |
| | 29 Vulpeculæ……… | 26·5 | 29·3 | +0·1 | 69 25 28·0 | …… | …… | …… | …… | + 0 39·9 | ………… | +20 39 17·9 |
| | (*k*) 10 Delphini………… | 47·6 | 52·6 | +0·1 | 76 2 50·4 | + 0·5 | …… | …… | …… | + 0 50·6 | ………… | +14 1 44·3 |
| | (*l*) δ Delphini ………… | 35·1 | 38·4 | +0·1 | 75 33 37·0 | + 0·3 | 62·5 | 29·79 | 62·5 | + 0 49·8 | ………… | +14 30 58·7 |
| Aug. 13 | (*m*) Nadir …………… | 57·8<br>61·7 | 63·0<br>67·0 | −0·1 | 214 8 2·5 | …… | …… | …… | …… | ……… | 2·7 | ………… |
| | …………………… | 63·0<br>57·7 | 69·0<br>63·5 | −0·1 | 214 8 2·9 | …… | …… | …… | …… | ……… | ………… | ………… |
| | δ Ursæ Minoris …… | 9·5 | 16·7 | −0·5 | 3 30 12·6 | …… | 65·4 | 30·01 | 64·8 | − 0 33·5 | ………… | +86 35 46·8 |
| | Saturn Centre……… | 9·8 | 13·0 | +0·5 | 112 44 12·0 | …… | …… | …… | …… | + 4 32·8 | ………… | −22 43 18·9 |
| | ο Draconis ………… | 25·0 | 29·7 | −0·1 | 30 53 27·4 | …… | …… | …… | …… | − 0 3·2 | ………… | +59 12 1·7 |
| | Jupiter Centre……… | 56·0 | 58·4 | +0·5 | 113 3 57·8 | …… | …… | …… | …… | + 4 40·7 | ………… | −23 3 12·6 |
| | 42 Aquilæ………… | 11·0 | 15·8 | +0·3 | 95 3 13·9 | …… | 64·6 | 30·01 | 64·5 | + 1 41·4 | ………… | − 4 59 29·4 |
| | (*d*) φ Cygni…………… | 7·2 | 11·4 | +0·1 | 60 17 9·2 | + 0·1 | …… | …… | …… | + 0 27·8 | ………… | +29 47 48·8 |
| | 13 Vulpeculæ……… | 14·9 | 20·0 | +0·1 | 66 24 17·6 | …… | …… | …… | …… | + 0 35·7 | ………… | +23 40 32·6 |
| | (*c*) 15 Sagittæ………… | 36·0 | 39·8 | +0·1 | 73 25 37·9 | 0·0 | …… | …… | …… | + 0 46·3 | ………… | +16 39 1·7 |
| | (*i*) 22 Vulpeculæ……… | 43·2 | 47·6 | +0·1 | 67 2 45·7 | + 0·3 | …… | …… | …… | + 0 36·6 | ………… | +23 2 3·3 |
| | (*c*) 23 Vulpeculæ……… | 38·2 | 41·0 | +0·1 | 62 44 39·7 | 0·0 | …… | …… | …… | + 0 30·9 | ………… | +27 20 15·3 |
| | Groomb. 1431 S.P.… | 54·8 | 60·9 | −0·5 | 352 52 57·6 | …… | …… | …… | …… | − 0 49·7 | ………… | +82 46 42·0 |
| | ω³ Cygni ………… | 37·2 | 42·2 | 0·0 | 41 23 39·8 | …… | …… | …… | …… | + 0 7·2 | ………… | +48 41 38·9 |
| | 70 Aquilæ………… | 8·0 | 11·3 | +0·3 | 93 9 10·0 | …… | …… | …… | …… | + 1 34·1 | ………… | − 3 5 18·2 |
| | 29 Vulpeculæ……… | 25·7 | 29·9 | +0·1 | 69 25 27·9 | …… | 64·8 | 30·03 | 64·4 | + 0 40·1 | ………… | +20 39 17·9 |
| Aug. 14 | (*n*) Moon North Limb… | 42·3 | …… | +0·5 | 116 2 44·6 | + 1·5 | …… | …… | …… | + 6 17·0 | 2·6 | −26 3 37·3 |
| | (*o*) …………………… | …… | 46·1 | +0·5 | 116 2 45·2 | 0·0 | …… | …… | …… | + 6 17·0 | ………… | −26 3 36·4 |
| | (*p*) …………………… | 50·8 | 54·0 | +0·5 | 116 2 53·1 | − 2·0 | 65·8 | 30·02 | 64·5 | + 6 17·0 | ………… | −26 3 42·3 |
| Aug. 15 | (*e*) 22 Vulpeculæ……… | 42·8 | 45·8 | +0·1 | 67 2 44·6 | + 0·3 | …… | …… | …… | + 0 37·3 | ………… | +23 2 3·6 |
| | (*q*) 23 Vulpeculæ……… | 36·9 | 38·7 | +0·1 | 62 44 37·9 | + 0·3 | 55·2 | 29·98 | 56·5 | + 0 31·4 | ………… | +27 20 16·2 |

(*a*) At $13^h\ 12^m\ 24^s$.
(*b*) At $18^h\ 10^m$.
(*c*) Wire III.
(*d*) Wire IV.

(*e*) Wire II.
(*f*) At $12^h\ 57^m$.
(*g*) At $13^h\ 40^m\ 50^s$
(*h*) At $13^h\ 41^m\ 18^s$.

(*i*) Wire I.
(*k*) $57^s$ after transit.
(*l*) $48^s$ after transit.
(*m*) At $18^h\ 5^m$.

(*n*) At $16^h\ 34^m\ 30^s$. } faint.
(*o*) At $16^h\ 35^m\ 14^s$. } faint.
(*p*) At $16^h\ 35^m\ 58^s$. } faint.
(*q*) Wire V.

| Date. | Object Observed. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Aug. 15 | λ Ursæ Minoris | 39·6 | 44·8 | −0·5 | 1 15 41·6 | ...... | ...... | ...... | ...... | − 0 37·2 | 304 8 2·6 | +88 50 21·4 |
| | ω³ Cygni | 37·0 | 40·3 | 0·0 | 41 23 38·8 | ...... | ...... | ...... | ...... | + 0 7·4 | ............ | +48 41 39·6 |
| | 71 Aquilæ | 46·6 | 49·6 | +0·3 | 91 42 48·6 | ...... | ...... | ...... | ...... | + 1 30·5 | ............ | − 1 38 53·3 |
| | A.S.C. 2440 | 35·1 | 36·0 | +0·1 | 60 17 35·9 | ...... | ...... | ...... | ...... | + 0 28·3 | ............ | +29 47 21·6 |
| | (a) 31 Vulpeculæ | 1·7 | 2·0 | +0·1 | 63 34 2·0 | + 0·1 | ...... | ...... | ...... | + 0 32·5 | ............ | +26 30 51·2 |
| | A.S.C. 2476 | 52·5 | 55·0 | +0·2 | 86 7 54·2 | ...... | 55·2 | 29·98 | 56·4 | + 1 13·6 | ............ | + 3 56 18·0 |
| | Mercury Centre | 29·1 | 32·0 | +0·1 | 72 23 30·8 | ...... | 56·0 | 30·03 | 58·2 | + 0 45·5 | 2·4 | +17 41 9·3 |
| Aug. 16 | Sun South Limb | 45·5 | 50·0 | +0·1 | 76 31 47·7 | ...... | ...... | ...... | ...... | + 0 52·2 | ............ | +13 32 45·7 |
| | Venus North Limb | 28·7 | 32·0 | +0·2 | 91 18 30·7 | ...... | 58·5 | 29·98 | 58·6 | + 1 28·6 | ............ | − 1 14 33·7 |
| | (b) α Ursæ Minoris S.P. | 55·2 | 61·1 | −0·6 | 358 34 57·6 | −47·4 | ...... | ...... | ...... | − 0 40·8 | ............ | +88 28 3·8 |
| | (c) ........................ | 7·5 | 13·3 | −0·6 | 358 34 9·9 | − 0·1 | ...... | ...... | ...... | − 0 40·8 | ............ | +88 28 3·4 |
| | (d) ........................ | 55·8 | 61·2 | −0·6 | 358 34 57·9 | −47·4 | 59·2 | 29·98 | 59·6 | − 0 40·8 | ............ | +88 28 4·1 |
| | η Ursæ Majoris | 5·3 | 9·5 | 0·0 | 39 59 7·5 | ...... | ...... | ...... | ...... | + 0 5·9 | ............ | +50 6 12·2 |
| | (e) δ Ursæ Minoris | 10·5 | 16·8 | −0·5 | 3 30 13·1 | 0·0 | 55·8 | 29·96 | 58·4 | − 0 34·1 | ............ | +86 35 46·6 |
| | (f) Moon South Limb | 57·1 | ...... | +0·5 | 115 39 58·9 | − 2·5 | ...... | ...... | ...... | + 6 8·7 | ............ | −25 40 39·5 |
| | (g) ........................ | ...... | 58·1 | +0·5 | 115 39 57·3 | − 0·4 | ...... | ...... | ...... | + 6 8·7 | ............ | −25 40 40·0 |
| | (h) ........................ | 53·5 | 56·1 | +0·5 | 115 39 55·3 | + 2·2 | ...... | ...... | ...... | + 6 8·7 | ............ | −25 40 40·6 |
| | ο Draconis | 24·3 | 28·1 | −0·1 | 30 53 26·3 | ...... | ...... | ...... | ...... | − 0 3·3 | ............ | +59 12 2·6 |
| | (i) Jupiter Centre | 28·9 | 30·7 | +0·5 | 113 5 30·2 | − 0·1 | ...... | ...... | ...... | + 4 46·9 | ............ | −23 4 51·4 |
| | (k) Nadir | 56·6<br>62·0 | 61·9<br>67·0 | −0·1 | 214 8 2·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 63·2<br>58·4 | 68·3<br>63·3 | −0·1 | 214 8 2·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | (a) φ Cygni | 5·8 | 10·1 | +0·1 | 60 17 7·8 | + 0·1 | 56·0 | 29·95 | 58·5 | + 0 28·2 | ............ | +29 47 49·5 |
| | (l) 15 Sagittæ | 34·8 | 39·0 | +0·1 | 73 25 36·9 | + 0·2 | ...... | ...... | ...... | + 0 47·0 | ............ | +16 39 1·5 |
| | (a) α² Capricorni | 29·0 | 30·1 | +0·4 | 103 4 30·0 | 0·0 | ...... | ...... | ...... | + 2 28·1 | ............ | −13 1 32·5 |
| | (m) λ Ursæ Minoris | 38·9 | 44·9 | −0·5 | 1 15 41·3 | 0·0 | ...... | ...... | ...... | − 0 37·2 | ............ | +88 50 21·5 |
| | ω³ Cygni | 36·9 | 40·1 | 0·0 | 41 23 38·6 | ...... | ...... | ...... | ...... | + 0 7·3 | ............ | +48 41 39·7 |
| | 71 Aquilæ | 46·3 | 49·8 | +0·3 | 91 42 48·6 | ...... | ...... | ...... | ...... | + 1 30·3 | ............ | − 1 38 53·3 |
| | A.S.C. 2440 | 34·2 | 36·2 | +0·1 | 60 17 35·6 | ...... | 55·5 | 29·94 | 58·0 | + 0 28·3 | ............ | +29 47 21·7 |
| | (a) 4 Aquarii | 6·5 | 9·6 | +0·3 | 96 16 8·2 | 0·0 | ...... | ...... | ...... | + 1 48·4 | ............ | − 6 12 31·0 |
| | (m) 31 Vulpeculæ | 1·5 | 3·0 | +0·1 | 63 34 2·5 | 0·0 | ...... | ...... | ...... | + 0 32·4 | ............ | +26 30 50·7 |
| | (a) 57 Cygni | 24·8 | 28·1 | +0·1 | 46 17 26·3 | + 0·2 | ...... | ...... | ...... | + 0 12·4 | ............ | +43 47 46·7 |
| Aug. 17 | Sun North Limb | 11·9 | 15·2 | +0·1 | 76 19 13·7 | ...... | 62·9 | 29·76 | 61·5 | + 0 51·0 | ............ | +13 45 21·1 |
| | (b) α Ursæ Minoris S.P. | 56·0 | 62·0 | −0·6 | 358 34 58·4 | −47·4 | 62·5 | 29·73 | 62·0 | − 0 40·2 | ............ | +88 28 5·0 |
| | ........................ | 7·7 | 14·0 | −0·6 | 358 34 10·3 | ...... | ...... | ...... | ...... | − 0 40·2 | ............ | +88 28 4·3 |
| | (d) ........................ | 54·3 | 61·0 | −0·6 | 358 34 57·1 | −47·4 | 63·8 | 29·72 | 62·5 | − 0 40·1 | ............ | +88 28 3·8 |
| | (n) δ Ursæ Minoris | 9·7 | 17·0 | −0·5 | 3 30 12·8 | 0·0 | 60·5 | 29·68 | 61·4 | − 0 33·4 | ............ | +86 35 46·4 |
| | Jupiter Centre | 9·5 | 12·2 | +0·5 | 113 6 11·3 | ...... | ...... | ...... | ...... | + 4 41·5 | ............ | −23 5 27·0 |
| | (o) Nadir | 58·1<br>63·1 | 63·1<br>67·9 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ........................ | 62·7<br>57·4 | 67·3<br>62·6 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | (p) Moon South Limb | 16·5 | 19·1 | +0·5 | 113 17 18·1 | + 6·3 | 59·8 | 29·69 | 61·0 | + 4 46·2 | ............ | −23 16 44 8 |
| | β Sagittæ | 32·3 | 35·8 | +0·1 | 72 57 34·3 | ...... | ...... | ...... | ...... | + 0 45·5 | ............ | +17 7 6·0 |
| | α² Capricorni | 32·9 | 34·5 | +0·4 | 103 4 34·1 | ...... | ...... | ...... | ...... | + 2 25·8 | ............ | −13 1 34·1 |
| | Groomb. 1431 S.P. | 53·0 | 58·4 | −0·5 | 352 52 55·4 | ...... | ...... | ...... | ...... | − 0 49·5 | ............ | +82 46 40·1 |
| | ζ Delphini | 16·0 | 20·6 | +0·1 | 75 56 18·3 | ...... | ...... | ...... | ...... | + 0 50·5 | ............ | +14 8 17·0 |
| | 71 Aquilæ | 49·0 | 53·2 | +0·3 | 91 42 51·6 | ...... | ...... | ...... | ...... | + 1 28·7 | ............ | − 1 38 54·5 |
| | A.S.C. 2440 | 36·5 | 39·2 | +0·1 | 60 17 38·1 | ...... | ...... | ...... | ...... | + 0 27·8 | ............ | +29 47 19·9 |
| | 5 Aquarii | 5·8 | 9·3 | +0·3 | 96 9 7·9 | ...... | ...... | ...... | ...... | + 1 45·9 | ............ | − 6 5 28·0 |
| | (q) 57 Cygni | 23·2 | 28·2 | +0·1 | 46 17 25·6 | + 0·7 | ...... | ...... | ...... | + 0 12·2 | ............ | +43 47 47·3 |
| | (l) 32 Vulpeculæ | 0·4 | 3·2 | +0·1 | 62 37 1·7 | + 0·3 | 60·5 | 29·68 | 61·5 | + 0 30·6 | ............ | +27 27 53·2 |

(a) Wire IV.
(b) $30^m$ before transit.
(c) At $13^h\ 5^m\ 15^s$.
(d) $30^m$ after transit.
(e) At $18^h\ 24^m\ 10^s$.
(f) At $18^h\ 30^m\ 27^s$.
(g) At $18^h\ 30^m\ 53^s$.
(h) At $18^h\ 31^m\ 30^s$.
(i) Cloudy; Wire IV.
(k) At $19^h\ 10^m$.
(l) Wire V.
(m) Wire III.
(n) Wire III.; tremulous.
(o) At $19^h\ 15^m$.
(p) At $19^h\ 26^m\ 21^s$.
(q) Wire I.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ' " | " | ° | In. | ° | ' " | ° ' " | ° ' " |
| Aug. 18 | Sun South Limb...... | 4·5 | 9·5 | +0·1 | 77 10 7·1 | ...... | 66·6 | 29·67 | 63·3 | + 0 52·0 | 304 8 2·8 | +12 54 26·9 |
|  | $o^2$ Cygni ............... | 3·5 | 8·2 | 0·0 | 43 49 5·9 | ...... | 64·9 | 29·63 | 64·0 | + 0 9·5 | ............ | +46 16 10·6 |
|  | (*a*) Moon South Limb... | 23·0 | ...... | +0·5 | 109 53 23·6 | − 8·3 | ...... | ...... | ...... | + 3 36·0 | ............ | −19 51 25·3 |
|  | (*b*) ........................ | ...... | 13·0 | +0·5 | 109 53 13·8 | + 0·2 | ...... | ...... | ...... | + 3 36·0 | ............ | −19 51 24·0 |
|  | (*c*) ........................ | 6·0 | 5·8 | +0·5 | 109 53 6·6 | + 6·2 | ...... | ...... | ...... | + 3 36·0 | ............ | −19 51 22·8 |
|  | (*d*) λ Ursæ Minoris....... | 35·5 | 43·1 | −0·5 | 1 15 38·7 | 0·0 | ...... | ...... | ...... | − 0 36·1 | ............ | +88 50 23·4 |
|  | ζ Delphini.............. | 16·9 | 20·8 | +0·1 | 75 56 18·8 | ...... | ...... | ...... | ...... | + 0 49·9 | ............ | +14 8 17·3 |
|  | 29 Vulpeculæ......... | 25·5 | 29·0 | +0·1 | 69 25 27·3 | ...... | ...... | ...... | ...... | + 0 39·5 | ............ | +20 39 19·2 |
|  | μ Aquarii.............. | 26·4 | 28·0 | +0·4 | 99 37 27·4 | ...... | ...... | ...... | ...... | + 2 1·9 | ............ | − 9 34 3·3 |
|  | (*e*) 57 Cygni ............... | 24·5 | 28·5 | +0·1 | 46 17 26·4 | + 0·7 | ...... | ...... | ...... | + 0 12·0 | ............ | +43 47 46·9 |
|  | (*f*) 32 Vulpeculæ......... | 0·3 | 2·8 | +0·1 | 62 37 1·5 | + 0·3 | 64·0 | 29·62 | 64·2 | + 0 30·4 | ............ | +27 27 53·8 |
| Aug. 19 | β Sagittæ ............... | 32·0 | 34·6 | +0·1 | 72 57 33·6 | ...... | 62·0 | 29·42 | 63·0 | + 0 44·9 | 3·0 | +17 7 7·7 |
|  | (*g*) Nadir ............... | 57·0<br>62·0 | 62·9<br>67·6 | −0·1 | 214 8 2·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ........................ | 64·0<br>58·5 | 68·8<br>64·0 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | $\alpha^2$ Capricorni......... | 34·1 | 35·0 | +0·4 | 103 4 35·0 | ...... | ...... | ...... | ...... | + 2 23·9 | ............ | −13 1 32·7 |
|  | ζ Delphini .............. | 16·8 | 21·0 | +0·1 | 75 56 18·9 | ...... | ...... | ...... | ...... | + 0 49·8 | ............ | +14 8 17·5 |
|  | υ Capricorni ........... | 16·3 | 18·1 | +0·4 | 108 43 17·7 | ...... | 61·7 | 29·42 | 62·9 | + 3 19·3 | ............ | −18 41 10·8 |
|  | μ Aquarii.............. | 25·0 | 27·9 | +0·4 | 99 37 26·7 | ...... | ...... | ...... | ...... | + 2 1·7 | ............ | − 9 34 2·2 |
|  | (*h*) μ Delphini.............. | 52·2 | 57·0 | +0·1 | 76 56 54·5 | 0·0 | ...... | ...... | ...... | + 0 51·7 | ............ | +13 7 40·0 |
|  | 12 Aquarii............. | 0·4 | 5·2 | +0·3 | 96 30 3·1 | ...... | ...... | ...... | ...... | + 1 46·2 | ............ | − 6 26 23·1 |
|  | (*i*) Moon South Limb ... | 46·0 | ...... | +0·4 | 105 41 47·6 | − 9·5 | ...... | ...... | ...... | + 2 45·7 | ............ | −15 38 57·6 |
|  | (*k*) ........................ | ...... | 39·0 | +0·4 | 105 41 38·0 | − 1·7 | ...... | ...... | ...... | + 2 45·7 | ............ | −15 38 55·8 |
|  | (*l*) ........................ | 30·5 | 33·1 | +0·4 | 105 41 32·1 | + 3·8 | ...... | ...... | ...... | + 2 45·7 | ............ | −15 38 55·4 |
|  | 77 Draconis ........... | 28·6 | 32·1 | −0·4 | 12 36 29·8 | ...... | ...... | ...... | ...... | − 0 22·0 | ............ | +77 29 18·4 |
|  | 21 Aquarii............. | 18·0 | 21·0 | +0·3 | 94 17 19·6 | ...... | ...... | ...... | ...... | + 1 36·9 | ............ | − 4 13 30·3 |
|  | β Aquarii .............. | 4·0 | 7·0 | +0·3 | 96 19 5·9 | ...... | 62·0 | 29·43 | 63·0 | + 1 45·3 | ............ | − 6 15 25·0 |
| Aug. 20 | δ Ursæ Minoris ...... | 9·7 | 14·9 | −0·5 | 3 30 11·8 | ...... | 56·9 | 29·48 | 59·0 | − 0 33·4 | 2·6 | +86 35 47·4 |
|  | Saturn Centre......... | 56·9 | 60·2 | +0·5 | 112 45 59·0 | ...... | ...... | ...... | ...... | + 4 33·1 | ............ | −22 45 6·3 |
|  | (*f*) Jupiter Centre........ | 29·1 | 31·2 | +0·5 | 113 7 30·8 | − 0·1 | 56·6 | 29·49 | 58·5 | + 4 42·3 | ............ | −23 6 47·2 |
|  | $o^2$ Cygni ............... | 2·0 | 6·9 | 0·0 | 43 49 4·5 | ...... | 55·9 | 29·49 | 57·3 | + 0 9·7 | ............ | +46 16 11·6 |
|  | (*m*) Nadir ............... | 58·0<br>62·6 | 62·6<br>66·8 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | ........................ | 63·0<br>58·1 | 68·0<br>63·0 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | .... .......... |
|  | 5 Aquarii .............. | 4·0 | 8·0 | +0·3 | 96 9 6·4 | ...... | ...... | ...... | ...... | + 1 46·2 | ............ | − 6 5 26·8 |
|  | 32 Vulpeculæ......... | 58·5 | 61·0 | +0·1 | 62 36 59·7 | ...... | ...... | ...... | ...... | + 0 30·7 | ............ | +27 27 55·4 |
|  | 12 Aquarii North.... | 57·2 | 61·2 | +0·3 | 96 29 59·5 | ...... | ...... | ...... | ...... | + 1 47·8 | ............ | − 6 26 21·5 |
|  | (*e*) $61^2$ Cygni ............. | 13·9 | 16·5 | +0·1 | 52 6 15·2 | + 0·6 | ...... | ...... | ...... | + 0 18·4 | ............ | +37 58 51·6 |
|  | (*f*) $61^1$ Cygni............. | 11·9 | 15·2 | +0·1 | 52 6 13·6 | + 0·2 | ...... | ...... | ...... | + 0 18·4 | ............ | +37 58 53·6 |
|  | 77 Draconis ........... | 29·0 | 31·8 | −0·4 | 12 36 29·9 | ...... | 55·1 | 29·50 | 56·3 | − 0 22·4 | ............ | +77 29 18·3 |
|  | ι Capricorni........... | 9·2 | 10·9 | +0·4 | 107 32 10·3 | ...... | ...... | ...... | ...... | + 3 7·8 | ............ | −17 29 52·3 |
|  | 21 Aquarii............. | 15·8 | 17·9 | +0·3 | 94 17 17·0 | ...... | ...... | ...... | ...... | + 1 38·5 | ............ | − 4 13 29·7 |
|  | β Aquarii .............. | 1·2 | 4·8 | +0·3 | 96 19 3·4 | ...... | ...... | ...... | ...... | + 1 47·1 | ............ | − 6 15 24·7 |
|  | Groomb. 1562 S.P.... | 19·0 | 23·8 | −0·5 | 349 57 20·7 | ...... | ...... | ...... | ...... | − 0 54·5 | ............ | +79 51 0·4 |
|  | 12 Pegasi... .......... | 2·8 | 5·0 | +0·1 | 67 51 3·9 | ...... | ...... | ...... | ...... | + 0 37·9 | ............ | +22 13 44·0 |
|  | (*n*) Moon North Limb... | 11·5 | 13·8 | +0·4 | 100 26 13·0 | +10·3 | ...... | ...... | ...... | + 2 8·6 | ............ | −10 23 6·1 |
|  | 32 Aquarii............ | 35·4 | 37·0 | +0·3 | 91 43 36·6 | ...... | ...... | ...... | ...... | + 1 29·2 | ............ | − 1 39 40·0 |
|  | ξ Cephei, following... | 41·5 | 44·9 | −0·2 | 26 13 43·1 | ...... | ...... | ...... | ...... | − 0 7·9 | ............ | +63 51 50·6 |
|  | Groombridge 3707... | 10·1 | 15·0 | −0·5 | 7 59 12·1 | ...... | ...... | ...... | ...... | − 0 27·9 | ............ | +82 6 41·6 |
|  | θ Aquarii .............. | 5·3 | 8·3 | +0·3 | 98 37 6·9 | ...... | 54·3 | 29·50 | 55·6 | + 1 58·4 | ............ | − 8 33 39·5 |
| Aug. 21 | (*f*) 11 Pegasi .............. | 13·3 | 14·9 | +0·2 | 88 6 14·2 | 0·0 | 52·2 | 29·78 | 55·0 | + 1 19·0 | 2·9 | + 1 57 52·9 |

(*a*) At $20^h\ 16^m$.
(*b*) At $20^h\ 16^m\ 50^s$.
(*c*) At $20^h\ 17^m\ 30^s$.
(*d*) At $20^h\ 20^m\ 30^s$.

(*e*) Wire I.
(*f*) Wire IV.
(*g*) At $20^h\ 0^m$.

(*h*) Wire III.
(*i*) At $21^h\ 4^m\ 40^s$.
(*k*) At $21^h\ 5^m\ 20^s$.

(*l*) At $21^h\ 5^m\ 50^s$.
(*m*) At $20^h\ 30^m$.
(*n*) At $21^h\ 52^m\ 41^s$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ ″ | ′ | | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Aug. 21 | ξ Cephei, following··· | 41·5 | 44·8 | −0·2 | 26 13 43·1 | ...... | ...... | ...... | ...... | − 0 8·0 | 304 8 2·9 | +63 51 51·0 |
| | Piazzi X. 22 S.P. ···· | 25·6 | 30·9 | −0·6 | 353 27 27·5 | ...... | ...... | ...... | ...... | − 0 49·5 | ............ | +83 21 11·9 |
| | (a) Moon North Limb··· | 33·2 | ...... | +0·3 | 95 19 34·8 | − 6·5 | ...... | ...... | ...... | + 1 44·5 | ............ | − 5 15 46·7 |
| | (b) ........................ | ...... | 25·4 | +0·3 | 95 19 24·6 | + 2·8 | ...... | ...... | ...... | + 1 44·5 | ............ | − 5 15 45·8 |
| | (c) ........................ | 11·6 | 14·0 | +0·3 | 95 19 13·2 | +15·6 | 51·5 | 29·77 | 53·2 | + 1 44·5 | ............ | − 5 15 47·2 |
| Aug. 22 | (d) Sun North Limb····· | 26·0 | 29·4 | +0·1 | 77 57 27·6 | − 0·3 | 59·8 | 29·82 | 58·9 | + 0 54·5 | 3·2 | +12 7 4·6 |
| | α Ursæ Minoris S.P. | 9·8 | 15·4 | −0·6 | 358 34 12·1 | ...... | 61·0 | 29·80 | 60·0 | − 0 40·5 | ............ | +88 28 5·2 |
| | (e) ........................ | 55·8 | 61·8 | −0·6 | 358 34 58·2 | −47·4 | ...... | ...... | ...... | − 0 40·5 | ............ | +88 28 3·9 |
| | α Bootis ·············· | 24·5 | 27·0 | +0·1 | 70 4 25·9 | ...... | 62·3 | 29·77 | 60·7 | + 0 40·9 | ............ | +20 0 19·6 |
| | δ Ursæ Minoris ······· | 8·5 | 14·8 | −0·5 | 3 30 11·1 | ...... | 60·9 | 29·76 | 60·6 | − 0 33·5 | ............ | +86 35 48·8 |
| | Saturn Centre········· | 26·0 | 28·5 | +0·5 | 112 46 27·6 | ...... | ...... | ...... | ...... | + 4 33·8 | ............ | −22 45 35·0 |
| | Jupiter Centre········ | 20·2 | 22·2 | +0·5 | 113 8 21·8 | ...... | 59·0 | 29·76 | 59·7 | + 4 43·5 | ............ | −23 7 38·9 |
| | χ Delphini ··········· | 6·2 | 9·9 | +0·1 | 78 6 8·1 | ...... | 58·3 | 29·74 | 58·6 | + 0 54·8 | ............ | +11 58 23·5 |
| | (f) 61$^1$ Cygni ·············· | 10·7 | 15·1 | +0·1 | 52 6 12·9 | + 0·6 | ...... | ...... | ...... | + 0 18·4 | ............ | +37 58 54·5 |
| | (g) 61$^2$ Cygni ·············· | 14·0 | 17·2 | +0·1 | 52 6 15·6 | 0·0 | ...... | ...... | ...... | + 0 18·4 | ............ | +37 58 52·4 |
| | 77 Draconis··········· | 28·2 | 31·4 | −0·4 | 12 36 29·3 | ...... | ...... | ...... | ...... | − 0 22·4 | ............ | +77 29 19·5 |
| | Groomb. 1562 S.P.·· | 18·5 | 23·6 | −0·5 | 349 57 20·4 | ...... | ...... | ...... | ...... | − 0 54·6 | ............ | +79 50 59·4 |
| | (h) Nadir ·············· | 58·2<br>63·9 | 63·4<br>68·8 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ........................ | 62·8<br>57·8 | 68·4<br>63·6 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ..... | ......... | ............ | .............. |
| | α Aquarii············· | 38·0 | 41·1 | +0·2 | 91 8 39·9 | ...... | 57·7 | 29·72 | 58·5 | + 1 27·4 | ............ | − 1 4 40·9 |
| | λ Aquarii ············· | 6·6 | 10·2 | +0·3 | 98 28 8·8 | ...... | 56·5 | 29·71 | 57·5 | + 1 58·0 | ............ | − 8 24 40·4 |
| | β Piscium············· | 29·0 | 31·0 | +0·2 | 87 5 30·2 | ...... | ...... | ...... | ...... | + 1 15·4 | ............ | + 2 58 40·8 |
| | (i) Moon North Limb··· | 35·8 | ...... | +0·2 | 90 2 37·6 | − 9·5 | ...... | ...... | ...... | + 1 24·0 | ............ | + 0 1 34·3 |
| | (k) ............ ............ | ...... | 29·4 | +0·2 | 90 2 27·7 | − 0·7 | ...... | ...... | ...... | + 1 24·0 | ............ | + 0 1 35·4 |
| | (l) ........................ | 19·0 | 22·5 | +0·2 | 90 2 20·8 | + 8·1 | 56·5 | 29·70 | 57·1 | + 1 24·0 | ............ | + 0 1 33·5 |
| Aug. 24 | δ Ursæ Minoris······· | 7·7 | 14·6 | −0·5 | 3 30 10·6 | ...... | 53·6 | 29·60 | 56·0 | − 0 33·8 | 2·6 | +86 35 49·0 |
| | Saturn Centre········· | 50·1 | 52·8 | +0·5 | 112 46 51·8 | ...... | ...... | ...... | ...... | + 4 36·5 | ............ | −22 46 2·5 |
| | Jupiter Centre ········ | 59·8 | 61·8 | +0·5 | 113 9 1·4 | ...... | 52·0 | 29·62 | 53·8 | + 4 46·7 | ............ | −23 8 22·3 |
| | (m) Nadir ·············· | 57·6<br>62·8 | 62·4<br>67·1 | −0·1 | 214 8 2·5 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ........................ | 62·8<br>58·2 | 68·0<br>63·2 | −0·1 | 214 8 2·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | 5 Aquarii ············· | 2·2 | 6·5 | +0·3 | 96 9 4·7 | ...... | ...... | ...... | ...... | + 1 47·8 | ............ | − 6 5 26·7 |
| | χ Delphini ··········· | 3·8 | 7·8 | +0·1 | 78 6 5·8 | ...... | 50·5 | 29·63 | 52·7 | + 0 55·4 | ............ | +11 58 24·6 |
| | (f) 61$^2$ Cygni ·············· | 12·0 | 15·0 | +0·1 | 52 6 13·5 | + 0·6 | ...... | ...... | ...... | + 0 18·7 | ............ | +37 58 53·0 |
| | (g) 61$^1$ Cygni·············· | 10·1 | 13·2 | +0·1 | 52 6 11·7 | 0·0 | ...... | ...... | ...... | + 0 18·7 | ............ | +37 58 55·4 |
| Aug. 25 | Sun South Limb ····· | 18·9 | 22·0 | +0·1 | 79 30 20·5 | ...... | 55·9 | 29·72 | 57·3 | + 0 57·7 | 3·0 | +10 34 8·0 |
| | α Ursæ Minoris S.P. | 11·3 | 17·0 | −0·6 | 358 34 13·6 | ...... | 56·0 | 29·70 | 56·8 | − 0 40·8 | ............ | +88 28 6·6 |
| | δ Ursæ Minoris ······ | 7·1 | 14·5 | −0·5 | 3 30 10·3 | ...... | 53·3 | 29·72 | 56·0 | − 0 34·0 | ............ | +86 35 49·9 |
| Aug. 26 | Sun North Limb ···· | 24·0 | 28·1 | +0·1 | 79 19 26·2 | ...... | 56·1 | 29·76 | 57·3 | + 0 57·4 | ............ | +10 45 2·6 |
| | (n) α Ursæ Minoris S.P. | 13·9 | 19·2 | −0·6 | 358 34 16·0 | − 1·3 | 55·8 | 29·76 | 56·6 | − 0 40·8 | ............ | +88 28 8·7 |
| Aug. 27 | Sun South Limb ····· | 2·8 | 7·1 | +0·1 | 80 12 4·9 | ...... | 58·5 | 29·82 | 58·2 | + 0 59·1 | ............ | + 9 52 22·2 |
| | δ Ursæ Minoris······· | 8·6 | 14·7 | −0·5 | 3 30 11·1 | ...... | 56·4 | 29·82 | 57·8 | − 0 33·9 | ............ | +86 35 49·0 |
| Aug. 29 | Sun North Limb ···· | 42·8 | 46·6 | +0·1 | 80 22 45·0 | ...... | 60·5 | 29·70 | 59·2 | + 0 59·0 | ............ | + 9 41 42·2 |
| Aug. 30 | Jupiter Centre ········ | 50·8 | 52·2 | +0·5 | 113 10 51·9 | ...... | 51·2 | 29·75 | 53·9 | + 4 50·1 | ............ | −23 10 15·8 |
| | μ Delphini ··········· | 49·0 | 53·7 | +0·1 | 76 56 51·3 | ...... | 48·0 | 29·76 | 50·6 | + 0 53·8 | ............ | +13 7 41·1 |
| | (f) 61$^1$ Cygni ·············· | 8·3 | 11·5 | +0·1 | 52 6 9·9 | + 0·6 | ...... | ...... | ...... | + 0 18·8 | ............ | +37 58 56·9 |

(a) At 22$^h$ 36$^m$ 2$^s$.
(b) At 22$^h$ 36$^m$ 47$^s$.
(c) At 22$^h$ 37$^m$ 47$^s$.
(d) Wire V.

(e) 30$^m$ after transit.
(f) Wire I.
(g) Wire III.

(h) At 21$^h$ 40$^m$.
(i) At 23$^h$ 18$^m$ 50$^s$.
(k) At 23$^h$ 19$^m$ 30$^s$.

(l) At 23$^h$ 20$^m$ 10$^s$.
(m) At 20$^h$ 35$^m$.
(n) At 13$^h$ 8$^m$ 45$^s$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ″ | In. | ″ | ′ ″ | ° ′ ″ | ° ′ ″ |
| Aug. 30 | (a) 61$^2$ Cygni ............ | 10·5 | 14·0 | +0·1 | 52 6 12·3 | 0·0 | ...... | ...... | ...... | + 0 18·8 | 304 8 3·0 | +37 58 55·1 |
|  | Groomb. 1562 S.P. .. | 17·3 | 21·8 | −0·5 | 349 57 18·9 | ...... | 46·9 | 29·75 | 49·5 | − 0 56·5 | ............ | +79 50 56·2 |
|  | δ Ursæ Minoris S.P.. | 59·0 | 65·0 | −0·6 | 356 42 1·2 | ...... | 48·8 | 29·81 | 51·0 | − 0 44·4 | ............ | +86 35 50·6 |
| Aug 31 | Sun South Limb..... | 24·8 | 27·7 | +0·1 | 81 37 26·2 | ...... | 55·9 | 29·80 | 55·7 | + 1 2·3 | ............ | + 8 26 57·7 |
|  | Mercury Centre ...... | 38·6 | 40·0 | +0·2 | 82 48 39·6 | ...... | 56·8 | ...... | ...... | + 1 4·9 | ............ | + 7 15 41·7 |
| Sept. 6 | Sun North Limb..... | 45·6 | 48·2 | +0·2 | 83 17 47·3 | ...... | 58·5 | 29·59 | 58·2 | + 1 5·3 | ............ | + 6 46 33·6 |
|  | Mercury Centre ...... | 54·7 | 58·6 | +0·2 | 87 28 56·9 | ...... | 59·5 | 29·59 | 59·0 | + 1 15·7 | ............ | + 2 35 13·6 |
|  | α Ursæ Minoris S.P. | 15·0 | 21·5 | −0·6 | 358 34 17·7 | ...... | 60·9 | 29·60 | 60·2 | − 0 40·2 | ............ | +88 28 11·3 |
|  | (b) Venus North Limb.. | 7·8 | 9·0 | +0·4 | 101 48 8·9 | − 0·8 | 60·8 | 29·60 | 59·9 | + 2 16·1 | ............ | −11 44 58·0 |
|  | α Bootis ............... | 23·2 | 25·8 | +0·1 | 70 4 24·6 | ...... | 61·5 | ...... | ...... | + 0 40·7 | ............ | +20 0 20·9 |
| Sept. 7 | Sun South Limb..... | 58·7 | 62·2 | +0·2 | 84 12 0·5 | ...... | 60·8 | 29·51 | 58·0 | + 1 6·9 | ............ | + 5 52 18·8 |
|  | α Ursæ Minoris S.P. | 14·0 | 20·2 | −0·6 | 358 34 16·6 | ...... | 58·5 | 29·46 | 58·1 | − 0 40·2 | ............ | +88 28 10·2 |
| Sept. 8 | α Aquarii .............. | 38·8 | 41·0 | +0·2 | 91 8 40·2 | ...... | 51·7 | 29·10 | 53·6 | + 1 26·6 | ............ | − 1 4 40·6 |
|  | Groombridge 3707... | 2·8 | 8·8 | −0·5 | 7 59 5·4 | ...... | ...... | ...... | ...... | − 0 27·7 | ............ | +82 6 48·5 |
|  | Piazzi X. 22 S.P. .... | 17·3 | 24·1 | −0·6 | 353 27 19·9 | ...... | ...... | ...... | ...... | − 0 48·4 | ............ | +83 21 5·3 |
|  | 4 Lacertæ ............. | 15·0 | 19·0 | 0·0 | 41 24 17·1 | ...... | ...... | ...... | ...... | + 0 7·2 | ............ | +48 41 1·9 |
| Sept. 9 | (c) α Ursæ Minoris S.P. | 14·9 | 21·0 | −0·6 | 358 34 17·4 | − 0·5 | 59·6 | 28·95 | 58·9 | − 0 39·4 | ............ | +88 28 11·3 |
|  | μ Delphini ............ | 50·0 | 55·0 | +0·1 | 76 56 52·5 | ...... | 54·6 | 28·98 | 57·3 | + 0 51·6 | ............ | +13 7 42·1 |
| Sept. 10 | Sun North Limb .... | 4·8 | 8·1 | +0·2 | 84 48 6·8 | ...... | 59·9 | 29·12 | 58·8 | + 1 7·6 | ............ | + 5 16 11·8 |
| Sept. 12 | (d) δ Ursæ Minoris ....... | 3·9 | 10·7 | −0·5 | 3 30 6·8 | 0·0 | 57·0 | 29·70 | 58·6 | − 0 33·7 | ............ | +86 35 53·1 |
|  | Saturn Centre......... | 8·8 | 11·0 | +0·5 | 112 50 10·4 | ...... | ...... | ...... | ...... | + 4 36·7 | ............ | −22 49 20·9 |
| Sept. 14 | (e) α Ursæ Minoris S.P. | 17·0 | 23·5 | −0·6 | 358 34 19·7 | 0·0 | 65·9 | 29·94 | 64·0 | − 0 40 3 | ............ | +88 28 13·2 |
| Sept. 16 | Sun South Limb..... | 39·7 | 43·2 | +0·2 | 87 37 41·8 | ...... | 65·2 | 29·68 | 62·4 | + 1 15·4 | ............ | + 2 26 29·0 |
| Sept. 17 | (f) Nadir ............... | 58·8<br>63·3 | 63·1<br>67·8 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ..... | ......... | 3·4 | ............... |
|  | ........................ | 64·0<br>59·5 | 68·2<br>63·8 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
|  | (g) 61$^2$ Cygni............. | 5·7 | 10·4 | +0·1 | 52 6 8·1 | + 0·6 | ...... | ...... | ...... | + 0 18·3 | ............ | +37 58 59·6 |
|  | (h) 61$^1$ Cygni............. | 4·8 | 8·7 | +0·1 | 52 6 6·8 | + 0·2 | 54·5 | 29·35 | 56·2 | + 0 18·3 | ............ | +37 59 1·3 |
|  | ι Aquarii............... | 23·0 | 25·0 | +0·4 | 104 40 24·4 | ...... | 54·0 | 29·36 | 56·2 | + 2 38·6 | ............ | −14 37 36·4 |
|  | Groombridge 3707... | 0·2 | 5·0 | −0·5 | 7 59 2·2 | ...... | ...... | ...... | ...... | − 0 27·8 | ............ | +82 6 52·2 |
|  | θ Aquarii.............. | 5·5 | 8·5 | +0·3 | 98 37 7·1 | ...... | ...... | ...... | ...... | + 1 58·0 | ............ | − 8 33 38·5 |
|  | Piazzi X. 22 S.P. .... | 13·2 | 19·0 | −0·6 | 353 27 15·3 | ...... | ...... | ...... | ...... | − 0 48·6 | ............ | +83 21 0·1 |
|  | (i) Moon South Limb... | 6·2 | ...... | +0·3 | 97 30 8·4 | −10·0 | ...... | ...... | ...... | + 1 52·4 | ............ | − 7 26 24·2 |
|  | (k) ......................... | ...... | 0·7 | +0·3 | 97 29 59·1 | − 0·2 | ...... | ...... | ...... | + 1 52·4 | ............ | − 7 26 24·7 |
|  | (l) ......................... | 47·0 | 50·8 | +0·3 | 97 29 49·2 | + 9·2 | ...... | ...... | ...... | + 1 52·4 | .... ...... | − 7 26 24·2 |
|  | λ Aquarii .............. | 7·7 | 10·7 | +0·3 | 98 28 9·6 | ...... | ...... | ...... | ...... | + 1 57·2 | ............ | − 8 24 40·2 |
|  | 3 Piscium ............. | 10·0 | 12·7 | +0·2 | 90 43 11·7 | ...... | 53·9 | 29·37 | 55·9 | + 1 25·6 | ............ | − 0 39 10·7 |
|  | (h) 103 Aquarii .......... | 30·3 | 31·8 | +0·5 | 108 55 31·5 | − 0·1 | ...... | ...... | ...... | + 3 25·1 | ............ | −18 53 29·9 |
|  | (a) 23 Piscium ........... | 42·5 | 44·6 | +0·1 | 69 16 43·5 | 0·0 | ...... | ...... | ...... | + 0 39·8 | ............ | +20 48 3·3 |
|  | Uranus.................. | 49·6 | 52·1 | +0·3 | 92 13 51·2 | ...... | 53·8 | 29·37 | 55·7 | + 1 30·7 | ............ | − 2 9 55·3 |
| Sept. 18 | $\chi^1$ Piscium ............ | 2·7 | 6·0 | +0·2 | 89 40 4·5 | ...... | 50·8 | 29·44 | 55·7 | + 1 23·0 | 3·4 | + 0 23 59·1 |
|  | ι Piscium.............. | 30·2 | 32·2 | +0·2 | 85 17 31·2 | ...... | ...... | ...... | ...... | + 1 10·8 | ............ | + 4 46 44·6 |
| Sept. 19 | (m) α Ursæ Minoris S.P. | 22·0 | 27·1 | −0·6 | 358 34 24·0 | − 1·1 | 52·9 | 29·20 | 54·6 | − 0 40·3 | 3·3 | +88 28 16·1 |

(a) Wire III.
(b) Wire V.
(c) At $13^h\ 7^m\ 26^s$.
(d) At $18^h\ 24^m$.
(e) At $13^h\ 5^m$.
(f) At $20^h\ 0^m$.
(g) Wire I.
(h) Wire IV.
(i) At $22^h\ 20^m\ 20^s$.
(k) At $22^h\ 21^m\ 5^s$.
(l) At $22^h\ 21^m\ 50^s$.
(m) At $13^h\ 8^m\ 20^s$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Sept. 19 | Venus North Limb.. | 51·4 | 52·2 | +0·4 | 107 32 52·4 | ...... | 53·0 | 29·21 | 55·8 | + 3 7·0 | 304 8 3·3 | −17 30 32·9 |
| | β Ursæ Minoris ...... | 40·9 | 45·1 | −0·4 | 15 17 42·8 | ...... | ...... | ...... | ...... | − 0 19·2 | ............ | +74 48 2·9 |
| | (a) Nadir............... | 58·9<br>64·1 | 62·9<br>67·5 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ....................... | 64·3<br>58·9 | 68·0<br>63·0 | −0·1 | 214 8 3·2 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Sept. 20 | Sun North Limb...... | 47·8 | 50·5 | +0·2 | 88 38 49·4 | ...... | 57·7 | 29·14 | 56·8 | + 1 18·1 | 3·4 | + 1 25 19·1 |
| | (b) α Ursæ Minoris S.P. | 51·7 | 57·0 | −0·6 | 358 34 53·8 | −31·9 | ...... | ...... | ...... | − 0 39·9 | ............ | +88 28 15·4 |
| | (c) ......................... | 21·5 | 27·0 | −0·6 | 358 34 23·7 | − 1·7 | 56·8 | 29·15 | 56·8 | − 0 39·9 | ............ | +88 28 15·5 |
| | (d) ......................... | 6·9 | 12·1 | −0·6 | 358 35 8·9 | −47·9 | ...... | ...... | ...... | − 0 39·9 | ............ | +88 28 14·5 |
| | (e) α Bootis ............... | 25·8 | 28·0 | +0·1 | 70 4 27·0 | + 0·1 | 56·1 | 29·15 | 56·7 | + 0 40·5 | ............ | +20 0 19·0 |
| | (f) Nadir............... | 58·3<br>64·0 | 63·1<br>67·8 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ....................... | 64·2<br>59·0 | 68·0<br>63·6 | −0·1 | 214 8 3·4 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | α Aquarii.............. | 37·5 | 40·5 | +0·2 | 91 8 39·3 | ...... | 50·7 | 29·20 | 54·7 | + 1 27·1 | ............ | − 1 4 39·8 |
| | 4 Lacertæ.............. | 11·1 | 15·3 | 0·0 | 41 24 13·3 | ...... | ...... | ...... | ...... | + 0 7·2 | ............ | +48 41 6·1 |
| | 23 Piscium ............ | 41·9 | 44·9 | +0·1 | 69 16 43·4 | ...... | ...... | ...... | ...... | + 0 39·9 | ............ | +20 48 3·3 |
| | Uranus ................. | 41·3 | 44·9 | +0·3 | 92 16 43·3 | ...... | 50·4 | 29·21 | 53·7 | + 1 31·0 | ............ | − 2 12 47·7 |
| | 41 Piscium ............ | 6·0 | 8·1 | +0·2 | 82 45 7·2 | ...... | ...... | ...... | ...... | + 1 4·3 | ............ | + 7 19 15·1 |
| | (g) Moon North Limb... | 13·0 | ...... | +0·1 | 81 22 15·1 | − 1·7 | ...... | ...... | ...... | + 1 1·2 | ............ | + 8 42 12·0 |
| | (h) ......................... | ...... | 11·0 | +0·1 | 81 22 8·8 | + 5·5 | ...... | ...... | ...... | + 1 1·2 | ............ | + 8 42 11·1 |
| | (i) ......................... | 57·8 | 62·1 | +0·1 | 81 21 59·9 | +12·4 | 50·5 | 29·22 | 53·4 | + 1 1·2 | ............ | + 8 42 13·1 |
| | (k) α Ursæ Minoris....... | 19·1 | 24·0 | −0·5 | 1 37 20·9 | +21·3 | ...... | ...... | ...... | − 0 36·1 | ............ | +88 28 20·5 |
| Sept. 21 | (l) α Ursæ Minoris S.P. | 21·1 | 26·8 | −0·6 | 358 34 23·4 | − 0·4 | 54·9 | 29·27 | 54·8 | − 0 40·3 | 3·3 | +88 28 16·2 |
| | β Ursæ Minoris....... | 41·5 | 46·8 | −0·4 | 15 17 43·9 | ...... | ...... | ...... | ...... | − 0 19·2 | ............ | +74 48 1·8 |
| | (e) α Coronæ Borealis ... | 54·9 | 56·9 | +0·1 | 62 49 56·0 | ...... | 54·1 | 29·26 | 54·9 | + 0 30·9 | ............ | +27 14 59·6 |
| Sept. 26 | 104 Aquarii ........... | 1·0 | 4·0 | +0·4 | 108 43 3·0 | ...... | 48·3 | 29·95 | 50·9 | + 3 28·6 | ............ | −18 41 5·1 |
| | φ Pegasi................. | 35·5 | 37·5 | +0·1 | 71 49 36·6 | ...... | ...... | ...... | ...... | + 0 45·1 | ............ | +18 15 4·8 |
| | Uranus ................. | 20·0 | 21·8 | +0·3 | 92 22 21·0 | ...... | ...... | ...... | ...... | + 1 34·0 | ............ | − 2 18 28·5 |
| Sept. 27 | (m) Sun South Limb ..... | 17·0 | 19·3 | +0·3 | 91 54 18·5 | − 0·8 | 50·0 | 29·95 | 52·2 | + 1 32·0 | ............ | − 1 50 23·2 |
| | (n) Moon South Limb... | 30·0 | ...... | +0·1 | 67 38 31·7 | − 2·3 | ...... | ...... | ...... | + 0 38·9 | 3·2 | +22 26 18·1 |
| | (o) ......................... | ...... | 35·4 | +0·1 | 67 38 34·1 | − 4·6 | ...... | ...... | ...... | + 0 38·9 | ............ | +22 26 18·0 |
| | (p) ......................... | 34·8 | 37·8 | +0·1 | 67 38 36·5 | − 6·9 | 47·3 | 30·04 | 50·7 | + 0 38·9 | ............ | +22 26 17·9 |
| Sept. 28 | (q) α Ursæ Minoris S.P. | 24·1 | 30·4 | −0·6 | 358 34 26·7 | − 0·3 | 49·8 | 30·10 | 50·4 | − 0 41·8 | ............ | +88 28 18·2 |
| | α Aquarii .............. | 33·8 | 36·5 | +0·2 | 91 8 35·4 | ...... | 47·8 | 30·13 | 50·3 | + 1 30·4 | ............ | − 1 4 39·4 |
| | (r) Nadir ............... | 58·3<br>63·9 | 63·0<br>68·0 | −0·1 | 214 8 3·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ....................... | 63·8<br>59·0 | 68·7<br>64·2 | −0·1 | 214 8 3·1 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ω² Aquarii ............ | 11·4 | 12·6 | +0·4 | 105 27 12·2 | ...... | 47·7 | 30·14 | 50·5 | + 2 52·3 | ............ | −15 24 38·1 |
| | (e) φ Pegasi.............. | 35·2 | 36·8 | +0·1 | 71 49 36·1 | + 0·1 | ...... | ...... | ...... | + 0 45·4 | ............ | +18 15 4·8 |
| | (s) Moon South Limb... | 38·8 | ...... | +0·1 | 71 2 40·1 | + 6·3 | ...... | ...... | ...... | + 0 44·4 | 3·6 | +19 1 56·0 |
| | (t) ......................... | ...... | 48·1 | +0·1 | 71 2 47·2 | + 0·3 | ...... | ...... | ...... | + 0 44·4 | ............ | +19 1 54·9 |
| | (u) ......................... | 56·6 | 58·8 | +0·1 | 71 2 57·9 | −12·2 | 46·5 | 30·18 | 49·8 | + 0 44·4 | ............ | +19 1 56·7 |
| Sept. 29 | (x) Sun North Limb ..... | 6·1 | 9·3 | +0·3 | 92 9 8·1 | − 0·2 | 52·5 | 30·19 | 51·5 | + 1 33·2 | ............ | − 2 5 14·3 |
| | (y) Mercury Centre....... | 23·8 | 24·7 | +0·4 | 103 17 24·5 | − 0·8 | 51·1 | 30·19 | 51·2 | + 2 32·5 | ............ | −13 14 29·4 |
| | Venus North Limb.. | 58·0 | 59·7 | +0·5 | 111 16 59·2 | ...... | 51·3 | 30·18 | 51·4 | + 4 11·0 | ............ | −21 15 43·4 |

(a) At $21^h$ $55^m$.
(b) At $12^h$ $39^m$ $10^s$.
(c) At $13^h$ $9^m$ $30^s$.
(d) At $13^h$ $33^m$ $55^s$.
(e) Wire II.

(f) At $21^h$ $45^m$.
(g) At $0^h$ $34^m$ $11^s$.
(h) At $0^h$ $34^m$ $45^s$; hazy.
(i) At $0^h$ $35^m$ $18^s$.
(k) At $0^h$ $42^m$ $30^s$.

(l) At $13^h$ $6^m$ $30^s$.
(m) $55^s$ after transit.
(n) At $6^h$ $56^m$ $42^s$.
(o) At $6^h$ $57^m$ $8^s$.

(p) At $6^h$ $57^m$ $36^s$.
(q) At $13^h$ $6^m$ $5^s$.
(r) At $23^h$ $5^m$.
(s) At $7^h$ $56^m$ $6^s$.

(t) At $7^h$ $56^m$ $40^s$.
(u) At $7^h$ $58^m$ $2^s$; cloudy.
(x) Wire IV.
(y) Wire V.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Sept. 29 | (*a*) Uranus ................ | 5·0 | 8·2 | +0·3 | 92 25 6·9 | − 0·1 | 46·9 | 30·19 | 50·0 | + 1 35·3 | 304 8 3·6 | − 2 21 15·3 |
| Sept. 30 | Sun South Limb...... | 25·6 | 28·5 | +0·3 | 93 4 27·4 | ...... | 52·9 | 30·12 | 51·7 | + 1 36·3 | ............ | − 3 0 36·9 |
|  | (*b*) α Ursæ Minoris S.P. | 25·6 | 30·8 | −0·6 | 358 34 27·6 | − 0·1 | 52·6 | ...... | ...... | − 0 41·6 | .. ......... | +88 28 19·1 |
|  | (*c*) ......................... | 15·6 | 20·9 | −0·6 | 358 35 17·6 | −50·5 | ...... | ...... | ...... | − 0 41·6 | ............ | +88 28 18·7 |
|  | Mercury Centre....... | 25·8 | 27·2 | +0·4 | 103 50 26·9 | ...... | 52·1 | 30·12 | 51·8 | + 2 36·3 | ............ | −13 47 36·4 |
| Oct. 3 | Sun North Limb..... | 19·0 | 21·8 | +0·3 | 93 42 20·5 | ...... | 47·7 | 29·92 | 48·7 | + 1 39·1 | ............ | − 3 38 32·8 |
|  | α Ursæ Minoris S.P. | 27·7 | 32·9 | −0·6 | 358 34 29·7 | ...... | ...... | ...... | ...... | − 0 41·8 | ............ | +88 28 21·1 |
|  | (*d*) Mars Centre .......... | 28·3 | 32·2 | +0·1 | 80 28 30·5 | − 0·1 | 40·8 | 29·88 | 44·7 | + 1 1·9 | ............ | + 9 35 54·5 |
| Oct. 4 | Sun South Limb...... | 32·5 | 35·0 | +0·3 | 94 37 34·2 | ...... | 44·7 | 29·87 | 45·8 | + 1 43·4 | ............ | − 4 33 50·8 |
|  | α Ursæ Minoris S.P. | 27·2 | 32·0 | −0·6 | 358 34 29·0 | ...... | ...... | ...... | ...... | − 0 41·6 | ............ | +88 28 20·6 |
|  | (*e*) φ Pegasi............... | 34·0 | 35·8 | +0·1 | 71 49 35·0 | + 0·3 | ...... | ...... | ...... | + 0 45·3 | ............ | +18 15 6·2 |
|  | (*f*) Uranus ............... | 40·0 | 41·7 | +0·3 | 92 29 41·2 | 0·0 | 45·0 | 29·86 | 46·3 | + 1 34·9 | ............ | − 2 25 49·3 |
| Oct. 5 | (*g*) Nadir ............... | 59·0<br>64·0 | 64·0<br>69·5 | −0·1 | 214 8 4·2 | ...... | ...... | ...... | ...... | ......... | 4·0 | ............ |
|  | ...................... | 64·0<br>58·9 | 69·5<br>64·4 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| Oct. 6 | (*d*) Sun North Limb..... | 50·0 | 51·6 | +0·3 | 94 51 51·0 | − 0·2 | 53·0 | 29·99 | 52·0 | + 1 43·0 | 3·8 | − 4 48 6·8 |
|  | (*h*) α Ursæ Minoris S.P. | 32·7 | 38·8 | −0·6 | 358 34 35·2 | − 5·6 | ...... | ...... | ...... | − 0 41·2 | ............ | +88 28 21·4 |
|  | (*i*) ......................... | 26·6 | 33·3 | −0·6 | 358 34 29·4 | 0·0 | ...... | ...... | ...... | − 0 41·2 | ............ | +88 28 21·2 |
|  | (*k*) α Ursæ Minoris S.P. | 16·2 | 21·4 | −0·6 | 358 35 18·2 | −47·4 | 55·0 | 29·98 | 53·8 | − 0 41·2 | 3·6 | +88 28 22·8 |
| Oct. 7 | Sun South Limb..... | 52·3 | 55·8 | +0·3 | 95 46 54·2 | ...... | ...... | ...... | ...... | + 1 46·4 | ............ | − 5 43 13·8 |
|  | α Ursæ Minoris S.P. | 27·5 | 33·0 | −0·6 | 358 34 29·7 | ...... | ...... | ...... | ...... | − 0 41·2 | ............ | +88 28 21·7 |
|  | (*l*) ......................... | 14·5 | 20·0 | −0·6 | 358 35 16·6 | −47·4 | ...... | ...... | ...... | − 0 41·2 | ............ | +88 28 21·2 |
|  | (*e*) ε Ursæ Minoris ....... | 23·8 | 30·5 | −0·5 | 7 48 26·8 | + 4·5 | 56·5 | 30·00 | 55·4 | − 0 28·5 | ............ | +82 17 24·0 |
|  | (*m*) Nadir ............... | 58·2<br>63·5 | 63·9<br>68·8 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ...................... | 63·6<br>58·5 | 69·1<br>64·0 | −0·1 | 214 8 3·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | 104 Aquarii.......... | 1·2 | 3·0 | +0·4 | 108 43 2·6 | ...... | ...... | ...... | ...... | + 3 29·3 | ............ | −18 41 5·1 |
|  | Uranus ................ | 19·0 | 22·7 | +0·3 | 92 32 21·0 | ...... | ...... | ...... | ...... | + 1 35·0 | .. ......... | − 2 28 29·2 |
|  | Groomb. 1858 S.P... | 11·8 | 16·2 | −0·5 | 352 41 13·4 | ...... | ...... | ...... | ...... | − 0 51·8 | ............ | +82 34 54·8 |
|  | Groombridge 29...... | 57·9 | 63·0 | −0·4 | 14 1 0·0 | ...... | 48·0 | 30·10 | 49·6 | − 0 21·5 | ............ | +76 4 48·3 |
|  | Mars Centre.......... | 24·0 | 27·5 | +0·1 | 81 24 25·9 | ...... | 48·5 | 30·21 | 50·7 | + 1 3·6 | 3·8 | + 8 39 57·5 |
|  | (*k*) α Ursæ Minoris S.P. | 16·0 | 22·7 | −0·6 | 358 35 18·7 | −47·4 | 51·8 | 30·21 | 51·6 | − 0 41·8 | ............ | +88 28 22·5 |
| Oct. 8 | Sun North Limb..... | 47·5 | 50·0 | +0·3 | 95 37 49·2 | ...... | ...... | ...... | ...... | + 1 47·3 | ............ | − 5 34 9·5 |
|  | α Ursæ Minoris S.P. | 28·0 | 33·6 | −0·6 | 358 34 30·2 | ...... | ...... | ...... | ...... | − 0 41·8 | ............ | +88 28 21·4 |
|  | (*l*) .......... .............. | 16·0 | 21·2 | −0·6 | 358 35 18·0 | −47·4 | 51·8 | 30·21 | 52·1 | − 0 41·8 | ........ ... | +88 28 21·8 |
|  | Venus North Limb.. | 9·8 | 11·1 | +0·5 | 114 0 10·9 | ...... | 53·6 | 30·19 | 53·0 | + 5 14·8 | ............ | −23 59 58·7 |
| Oct. 10 | Sun South Limb..... | 33·4 | 36·3 | +0·3 | 96 55 35·1 | ...... | ...... | ...... | ...... | + 1 52·1 | ............ | − 6 52 0·2 |
|  | (*n*) α Ursæ Minoris S.P. | 30·0 | 35·1 | −0·6 | 358 34 31·9 | − 0·2 | 54·0 | 30·01 | 53·6 | − 0 41·3 | ............ | +88 28 23·4 |
|  | Uranus ................ | 55·6 | 58·1 | +0·3 | 92 34 57·2 | ...... | 52·8 | 29·97 | 53·1 | + 1 34·0 | ............ | − 2 31 4·2 |
|  | Groomb. 1858 S.P... | 9·5 | 14·8 | −0·5 | 352 41 11·6 | ...... | ...... | ...... | ...... | − 0 51·1 | ............ | +82 34 53·5 |
|  | Groombridge 29...... | 57·1 | 62·5 | −0·4 | 14 0 59·4 | ...... | 53·0 | 29·96 | 53·3 | − 0 21·2 | ............ | +75 4 48·8 |
|  | (*o*) α Ursæ Minoris S.P. | 41·5 | 46·8 | −0·6 | 358 34 43·6 | −12·7 | 58·5 | 30·08 | 57·1 | − 0 41·1 | 3·9 | +88 28 22·7 |
| Oct. 11 | Sun North Limb..... | 11·5 | 15·8 | +0·3 | 96 46 13·9 | ...... | ...... | ...... | ...... | + 1 50·5 | ............ | − 6 42 37·3 |

(*a*) At 23$^{h}$ 47$^{m}$ 36$^{s}$; hazy.
(*b*) At 13$^{h}$ 5$^{m}$.
(*c*) At 13$^{h}$ 35$^{m}$.
(*d*) Wire IV.

(*e*) Wire I.
(*f*) Wire III.
(*g*) At 23$^{h}$ 20$^{m}$.
(*h*) At 12$^{h}$ 54$^{m}$ 10$^{s}$.

(*i*) At 13$^{h}$ 4$^{m}$.
(*k*) 30$^{m}$ before transit.
(*l*) 30$^{m}$ after transit.

(*m*) At 23$^{h}$ 25$^{m}$.
(*n*) At 13$^{h}$ 6$^{m}$ 20$^{s}$.
(*o*) At 12$^{h}$ 48$^{m}$ 15$^{s}$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Oct. 11 | (*a*) α Ursæ Minoris S.P. | 20·6 | 26·3 | −0·6 | 358 35 22·8 | −52·2 | 58·8 | 30·07 | 57·9 | − 0 41·0 | 304 8 3·9 | +88 28 22·5 |
| | Mercury Centre | 56·6 | 57·0 | +0·4 | 108 37 57·3 | ...... | 59·8 | 30·06 | 58·5 | + 3 23·4 | ............ | −18 35 53·6 |
| | (*b*) Moon South Limb | 28·6 | ...... | +0·5 | 111 54 31·3 | − 6·7 | ...... | ...... | ...... | + 4 20·7 | ............ | −21 53 18·2 |
| | (*c*) ........................ | ...... | 25·7 | +0·5 | 111 54 24·0 | + 0·1 | ...... | ...... | ...... | + 4 20·7 | ............ | −21 53 17·7 |
| | (*d*) ........................ | 16·6 | 21·0 | +0·5 | 111 54 19·3 | + 5·4 | 55·8 | 30·11 | 56·2 | + 4 20·7 | ............ | −21 53 18·3 |
| | (*e*) β² Capricorni | 55·7 | 57·4 | +0·4 | 105 18 57·0 | − 0·2 | ...... | ...... | ...... | + 2 48·1 | ............ | −15 16 17·8 |
| | ϱ Capricorni | 41·4 | 43·7 | +0·4 | 108 21 42·9 | ...... | 55·1 | 30·11 | 55·7 | + 3 22·1 | ............ | −18 19 37·9 |
| | (*f*) Nadir | 58·0<br>63·4 | 64·0<br>69·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | ........................ | 63·6<br>59·0 | 69·8<br>65·2 | −0·1 | 214 8 4·2 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| | 104 Aquarii | 58·5 | 62·2 | +0·4 | 108 43 0·8 | ...... | ...... | ...... | ...... | + 3 28·3 | ............ | −18 41 2·0 |
| | Uranus | 44·2 | 48·0 | +0·3 | 92 35 46·4 | ...... | ...... | ...... | ...... | + 1 34·9 | ............ | − 2 31 54·2 |
| | Groombridge 29 | 56·9 | 63·0 | −0·4 | 14 0 59·5 | ...... | 49·8 | 30·11 | 51·6 | − 0 21·4 | ............ | +76 4 49·0 |
| | (*g*) α Ursæ Minoris S.P. | 17·0 | 23·1 | −0·6 | 358 35 19·4 | −47·4 | 50·9 | 30·10 | 51·8 | − 0 41·7 | 4·2 | +88 28 22·9 |
| | ........................ | 29·1 | 34·9 | −0·6 | 358 34 31·4 | ...... | ...... | ...... | ...... | − 0 41·7 | ............ | +88 28 22·3 |
| Oct. 12 | Sun South Limb | 49·9 | 52·7 | +0·3 | 97 40 51·6 | ...... | ...... | ...... | ...... | + 1 56·6 | ............ | − 7 37 20·8 |
| | (*h*) α Ursæ Minoris S.P. | 16·1 | 22·1 | −0·6 | 358 35 18·5 | −47·4 | 52·4 | 30·07 | 52·7 | − 0 41·4 | ............ | +88 28 22·3 |
| | Venus North Limb | 20·9 | 22·8 | +0·5 | 114 59 22·4 | ...... | 54·0 | 30·03 | 53·7 | + 5 44·6 | ............ | −24 59 39·6 |
| | (*i*) Moon South Limb | 42·9 | ...... | +0·4 | 108 14 44·6 | − 8·5 | ...... | ...... | ...... | + 3 22·1 | ............ | −18 12 30·8 |
| | (*k*) ........................ | ...... | 36·5 | +0·4 | 108 14 35·6 | − 0·5 | ...... | ...... | ...... | + 3 22·1 | ............ | −18 12 29·8 |
| | (*l*) ........................ | 26·8 | 29·4 | +0·4 | 108 14 28·5 | + 6·4 | 50·2 | 30·03 | 51·8 | + 3 22·1 | ............ | −18 12 29·6 |
| | θ Capricorni | 13·9 | 15·8 | +0·4 | 107 53 15·3 | ...... | ...... | ...... | ...... | + 3 17·5 | ............ | −17 51 5·4 |
| | 29 Capricorni | 38·4 | 39·9 | +0·4 | 105 51 39·5 | ...... | 49·6 | 30·03 | 51·3 | + 2 55·0 | ............ | −15 49 7·1 |
| | (*m*) Nadir | 59·5<br>64·2 | 64·5<br>68·6 | −0·1 | 214 8 4·0 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | ........................ | 64·5<br>59·2 | 69·6<br>64·2 | −0·1 | 214 8 4·3 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
| | Uranus | 34·0 | 36·1 | +0·3 | 92 36 35·3 | ...... | 47·6 | 30·02 | 49·8 | + 1 35·3 | ............ | − 2 32 43·2 |
| | Groomb. 1858 S.P. | 11·0 | 15·1 | −0·5 | 352 41 12·5 | ...... | ...... | ...... | ...... | − 0 51·8 | ............ | +82 34 53·3 |
| | σ Andromedæ | 59·9 | 62·9 | +0·1 | 54 10 1·5 | ...... | ...... | ...... | ...... | + 0 21·4 | ............ | +35 55 4·5 |
| | ϱ Andromedæ | 58·4 | 61·8 | +0·1 | 52 59 0·2 | ...... | ...... | ...... | ...... | + 0 20·0 | ............ | +37 6 7·2 |
| | 12 Cassiopeæ | 42·6 | 47·0 | −0·1 | 29 7 44·8 | ...... | ...... | ...... | ...... | − 0 5·1 | ............ | +60 57 47·7 |
| | Piazzi O. 74 | 29·2 | 32·8 | +0·1 | 46 33 31·2 | ...... | 46·8 | 30·02 | 49·0 | + 0 13·0 | ............ | +43 31 43·2 |
| Oct. 13 | Sun North Limb | 15·9 | 19·3 | +0·3 | 97 31 17·9 | ...... | 47·6 | 29·90 | 48·6 | + 1 55·9 | 4·5 | − 7 27 46·1 |
| | (*n*) α Ursæ Minoris S.P. | 41·7 | 47·4 | −0·6 | 358 34 44·0 | −11·2 | ...... | ...... | ...... | − 0 41·7 | ............ | +88 28 23·4 |
| | σ Andromedæ | 59·9 | 63·2 | +0·1 | 54 10 1·6 | ...... | ...... | ...... | ...... | + 0 21·3 | ............ | +35 55 4·8 |
| | ϱ Andromedæ | 58·0 | 62·1 | +0·1 | 52 59 0·2 | ...... | ...... | ...... | ...... | + 0 19·9 | ............ | +37 6 7·6 |
| | 12 Cassiopeæ | 41·9 | 45·7 | −0·1 | 29 7 43·8 | ...... | ...... | ...... | ...... | − 0 5·1 | ............ | +60 57 49·0 |
| | Piazzi O. 74 | 28·5 | 32·0 | +0·1 | 46 33 30·4 | ...... | 46·8 | 29·85 | 47·9 | + 0 12·9 | ............ | +43 31 44·4 |
| | (*g*) α Ursæ Minoris S.P. | 17·3 | 23·1 | −0·6 | 358 35 19·6 | −47·4 | 53·8 | 29·82 | 53·3 | − 0 41·1 | ............ | +88 28 23·4 |
| | (*o*) ........................ | 31·5 | 37·0 | −0·6 | 358 34 33·7 | − 0·5 | ...... | ...... | ...... | − 0 41·1 | ............ | +88 28 24·4 |
| Oct. 14 | (*h*) α Ursæ Minoris S.P. | 17·4 | 23·0 | −0·6 | 358 35 19·6 | −47·4 | 55·1 | 29·83 | 54·4 | − 0 41·0 | ............ | +88 28 23·5 |
| | α Ursæ Minoris S.P. | 31·0 | 36·7 | −0·6 | 358 34 33·3 | ...... | 53·7 | 29·92 | 53·5 | − 0 41·2 | ............ | +88 28 24·4 |
| Oct. 15 | Sun South Limb | 4·0 | 5·9 | +0·4 | 98 48 5·4 | ...... | ...... | ...... | ...... | + 2 1·2 | ............ | − 8 44 38·9 |
| | (*p*) α Ursæ Minoris S.P. | 25·6 | 31·0 | −0·6 | 358 35 27·7 | −55·3 | 54·5 | ...... | ...... | − 0 41·2 | ............ | +88 28 23·5 |
| | Mercury Centre | 55·2 | 56·5 | +0·5 | 109 34 56·4 | ...... | 56·2 | 29·91 | 55·7 | + 3 37·3 | ............ | −19 33 6·0 |
| | (*q*) Moon South Limb | 53·5 | ...... | +0·3 | 93 58 54·9 | + 3·9 | ...... | ...... | ...... | + 1 39·7 | ............ | − 3 55 10·8 |
| | (*r*) ........................ | 45·9 | 48·0 | +0·3 | 93 58 47·3 | +11·5 | 50·8 | 29·96 | 51·6 | + 1 39·7 | ............ | − 3 55 10·8 |
| Oct. 17 | (*s*) Moon South Limb | 44·0 | ...... | +0·2 | 83 34 45·3 | −10·4 | ...... | ...... | ...... | + 1 6·3 | ............ | + 6 29 46·5 |

(*a*) At $13^h\ 35^m\ 15^s$.
(*b*) At $19^h\ 40^m\ 50^s$.
(*c*) At $19^h\ 41^m\ 38^s$.
(*d*) At $19^h\ 42^m\ 20^s$.
(*e*) Wire V.
(*f*) At $23^h\ 20^m$.
(*g*) $30^m$ before transit.
(*h*) $30^m$ after transit.
(*i*) At $20^h\ 31^m\ 33^s$.
(*k*) At $20^h\ 32^m\ 18^s$.
(*l*) At $20^h\ 33^m\ 1^s$.
(*m*) At $23^h\ 15^m$.
(*n*) At $13^h\ 18^m\ 30^s$.
(*o*) At $13^h\ 6^m\ 57^s$.
(*p*) At $13^h\ 36^m\ 25^s$.
(*q*) At $22^h\ 50^m\ 36^s$
(*r*) At $22^h\ 51^m\ 12^s$.
(*s*) At $0^h\ 18^m\ 27^s$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Oct. 17 | (*a*) Moon South Limb… | …… | 36·2 | +0·2 | 83 34 35·8 | − 0·6 | …… | …… | …… | + 1 6·3 | 304 8 4·5 | + 6 29 46·6 |
|  | (*b*) ……………………… | 25·9 | 28·0 | +0·2 | 83 34 27·2 | + 7·9 | 47·5 | 29·08 | 48·7 | + 1 6·3 | ………… | + 6 29 46·3 |
| Oct. 18 | Sun North Limb…… | 7·8 | 10·5 | +0·4 | 99 22 9·5 | …… | 45·8 | 28·95 | 46·3 | + 2 2·3 | ………… | − 9 18 44·1 |
|  | (*c*) Mercury Centre …… | 46·5 | 45·9 | +0·5 | 109 52 46·8 | …… | 46·5 | 28·95 | 47·2 | + 3 39·2 | ………… | −19 50 58·3 |
|  | (*d*) Moon North Limb… | 49·0 | 50·2 | +0·1 | 78 7 49·8 | + 4·8 | 38·7 | 29·06 | 41·5 | + 0 55·8 | ………… | +11 56 37·3 |
|  | α Ursæ Minoris S.P. | 33·8 | 38·0 | −0·6 | 358 34 35·3 | …… | 39·5 | 29·11 | 41·2 | − 0 41·3 | ………… | +88 28 26·3 |
| Oct. 19 | (*e*) Sun South Limb…… | 57·5 | 60·0 | +0·4 | 100 15 59·1 | − 1·5 | 40·1 | …… | …… | + 2 9·7 | ………… | −10 12 39·6 |
|  | Venus North Limb · | 6·4 | 6·9 | +0·5 | 116 22 7·1 | …… | 41·4 | 29·11 | 43·4 | + 6 39·4 | ………… | −26 23 18·8 |
|  | (*f*) δ Ursæ Minoris……… | 53·1 | 56·9 | −0·5 | 3 29 54·5 | +15·2 | …… | …… | …… | − 0 34·2 | ………… | +86 35 52·2 |
|  | ……………………… | 7·7 | 12·0 | −0·5 | 3 30 9·3 | …… | 39·8 | 29·13 | 42·2 | − 0 34·2 | ………… | +86 35 52·6 |
|  | (*g*) α Ursæ Minoris…… | 51·0 | 56·0 | −0·5 | 1 36 52·9 | +46·3 | 33·2 | 29·19 | 35·7 | − 0 37·4 | ………… | +88 28 25·9 |
|  | Groombridge 404 … | 43·2 | 46·4 | −0·4 | 12 56 44·3 | …… | …… | …… | …… | − 0 22·8 | ………… | +77 9 6·2 |
|  | (*h*) Moon North Limb… | 27·3 | …… | +0·1 | 73 38 28·4 | − 8·0 | …… | …… | …… | + 0 48·4 | ………… | +16 26 18·9 |
|  | (*i*) ……………………… | …… | 22·0 | +0·1 | 73 38 21·3 | − 0·2 | …… | …… | …… | + 0 48·4 | ………… | +16 26 18·2 |
|  | (*k*) ……………………… | 11·2 | 13·0 | +0·1 | 73 38 12·3 | + 8·7 | 33·2 | …… | …… | + 0 48·4 | ………… | +16 26 18·3 |
|  | α Ursæ Minoris S.P. | 34·2 | 37·7 | −0·6 | 358 34 35·4 | …… | 38·5 | 29·27 | 39·8 | − 0 41·6 | 4·8 | +88 28 25·8 |
|  | (*l*) ……………………… | 23·8 | 27·0 | −0·6 | 358 35 24·8 | −49·9 | …… | …… | …… | − 0 41·6 | ………… | +88 28 25·3 |
| Oct. 20 | Sun North Limb…… | 27·9 | 30·0 | +0·4 | 100 5 29·3 | …… | 39·1 | …… | …… | + 2 9·6 | ………… | −10 2 10·9 |
|  | (*m*) δ Ursæ Minoris …… | 7·9 | 12·2 | −0·5 | 3 30 9·5 | + 0·8 | 40·4 | 29·33 | 42·1 | − 0 34·4 | ………… | +86 35 52·1 |
|  | Saturn Centre……… | 58·0 | 58·7 | +0·5 | 112 49 58·9 | …… | 40·2 | …… | …… | + 4 43·1 | ………… | −22 49 14·0 |
|  | (*n*) Nadir …………… | 0·5<br>5·0 | 4·1<br>8·8 | −0·1 | 214 8 4·6 | …… | …… | …… | …… | ……… | ………… | …………… |
|  | ……………………… | 5·8<br>0·8 | 9·1<br>5·0 | −0·1 | 214 8 4·9 | …… | …… | …… | …… | ……… | ………… | …………… |
|  | (*o*) α Ursæ Minoris …… | 37·7 | 40·0 | −0·5 | 1 36 38·3 | +60·3 | 33·3 | 29·49 | 35·6 | − 0 37·8 | ………… | +88 28 27·2 |
|  | 1 Persei …………… | 16·0 | 18·8 | 0·0 | 35 43 17·5 | …… | …… | …… | …… | + 0 1·6 | ………… | +54 22 8·9 |
|  | Groombridge 404…· | 43·8 | 46·6 | −0·4 | 12 56 44·7 | …… | …… | …… | …… | − 0 23·0 | ………… | +77 9 6·3 |
|  | 58 Andromedæ …… | 17·2 | 20·0 | +0·1 | 52 58 18·8 | …… | …… | …… | …… | + 0 20·2 | ………… | +37 6 49·0 |
|  | 59 Andromedæ, pre. | 17·2 | 19·0 | +0·1 | 51 47 18·1 | …… | …… | …… | …… | + 0 18·9 | ………… | +38 17 51·0 |
|  | 3 Ursæ Minoris S.P. | 49·9 | 53·0 | −0·5 | 345 26 50·9 | …… | …… | …… | …… | − 1 7·4 | ………… | +75 20 15·5 |
|  | θ¹ Arietis…………… | 13·0 | 14·1 | +0·1 | 70 54 13·7 | …… | …… | …… | …… | + 0 44·3 | ………… | +19 10 30·0 |
|  | Groombridge 506 … | 23·3 | 25·8 | −0·5 | 9 9 24·1 | …… | …… | …… | …… | − 0 27·6 | ………… | +80 56 31·5 |
|  | ϱ Ceti ……………… | 46·6 | 47·4 | +0·4 | 103 2 47·5 | …… | …… | …… | …… | + 2 32·6 | ………… | −12 59 52·1 |
|  | ν Arietis …………… | 53·1 | 54·5 | +0·1 | 68 47 54·0 | …… | …… | …… | …… | + 0 41·0 | ………… | +21 16 53·0 |
|  | 84 Ceti……………… | 42·2 | 43·2 | +0·2 | 91 25 42·9 | …… | …… | …… | …… | + 1 32·1 | ………… | − 1 21 47·0 |
|  | (*p*) γ Ceti ……………… | 39·8 | 41·3 | +0·2 | 87 29 40·8 | 0·0 | …… | …… | …… | + 1 19·5 | ………… | + 2 34 27·7 |
|  | 17 Persei…………… | 21·6 | 22·5 | +0·1 | 55 40 22·1 | …… | …… | …… | …… | + 0 23·4 | ………… | +34 24 42·5 |
|  | (*q*) Moon North Limb… | 52·6 | …… | +0·1 | 69 50 52·5 | − 4·3 | …… | …… | …… | + 0 42·6 | ………… | +20 13 57·2 |
|  | (*r*) ……………………… | …… | 49·7 | +0·1 | 69 50 49·9 | − 0·1 | …… | …… | …… | + 0 42·6 | ………… | +20 13 55·6 |
|  | (*s*) ……………………… | 44·6 | 44·3 | +0·1 | 69 50 44·5 | + 4·5 | 34·0 | 29·49 | 35·6 | + 0 42·6 | ………… | +20 13 56·4 |
|  | α Ursæ Minoris S.P. | 35·1 | 39·1 | −0·6 | 358 34 36·5 | …… | 39·6 | 29·63 | 40·5 | − 0 42·0 | 4·7 | +88 28 26·6 |
| Oct. 21 | Sun South Limb …· | 0·8 | 1·7 | +0·4 | 100 59 1·7 | …… | 40·4 | 29·63 | 40·7 | + 2 16·5 | ………… | −10 55 50·3 |
|  | (*t*) δ Ursæ Minoris……· | 7·2 | 12·0 | −0·5 | 3 30 9·1 | + 1·6 | 41·2 | 29·60 | 42·0 | − 0 34·7 | ………… | +86 35 51·9 |
|  | Jupiter Centre……… | 45·6 | 46·1 | +0·5 | 112 56 46·3 | …… | 41·0 | …… | …… | + 4 48·2 | ………… | −22 56 6·6 |
|  | α Ursæ Minoris S.P. | 33·1 | 38·0 | −0·6 | 358 34 35·0 | …… | 45·9 | 28·63 | 45·5 | − 0 40·1 | 4·6 | +88 28 27·1 |
| Oct. 22 | Sun North Limb …· | 18·2 | 19·4 | +0·4 | 100 48 19·3 | …… | 45·5 | 28·62 | 45·3 | + 2 9·3 | ………… | −10 45 0·8 |
|  | Jupiter Centre……… | 7·4 | 9·0 | +0·5 | 112 56 8·7 | …… | 43·5 | 28·43 | 43·6 | + 4 35·5 | ………… | −22 55 16·4 |

(*a*) At $0^h\ 19^m\ 14^s$.
(*b*) At $0^h\ 19^m\ 54^s$.
(*c*) $45^s$ after transit.
(*d*) At $1^h\ 6^m\ 2^s$.
(*e*) At $13^h\ 37^m$.
(*f*) At $18^h\ 12^m$.
(*g*) At $1^h\ 34^m$.
(*h*) At $1^h\ 53^m\ 33^s$.
(*i*) At $1^h\ 54^m\ 20^s$.
(*k*) At $1^h\ 55^m\ 10^s$.
(*l*) At $13^h\ 35^m\ 12^s$.
(*m*) At $18^h\ 56^m\ 15^s$.
(*n*) At $22^h\ 35^m$.
(*o*) At $1^h\ 38^m\ 20^s$.
(*p*) Wire IV.
(*q*) At $2^h\ 45^m\ 28^s$.
(*r*) At $2^h\ 46^m$.
(*s*) At $2^h\ 46^m\ 32^s$.
(*t*) At $18^h\ 27^m\ 20^s$.

| Date. | Object Observed. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | " | " | " | ° ′ " | " | ° | ° | ° | ′ " | ° ′ " | ° ′ |
| Oct. 22 | (*a*) Nadir | 0·3<br>4·7 | 4·9<br>8·9 | −0·1 | 214 8 4·5 | …… | …… | …… | …… | ……… | 304 8 4·6 | …………… |
| | ……………………… | 64·5<br>59·9 | 69·6<br>65·1 | −0·1 | 214 8 4·8 | …… | …… | …… | …… | ……… | ………… | …………… |
| Oct. 23 | (*b*) α Ursæ Minoris S.P. | 8·5 | 12·9 | −0·6 | 358 35 10·1 | −33·5 | 40·8 | 29·06 | 41·5 | − 0 41·1 | 4·8 | +88 28 27·5 |
| Oct. 24 | Sun South Limb | 31·2 | 31·1 | +0·5 | 102 2 31·8 | …… | 40·9 | …… | …… | + 2 20·8 | ………… | −11 59 24·6 |
| | (*c*) δ Ursæ Minoris | 7·8 | 11·9 | −0·5 | 3 30 9·3 | + 0·3 | 39·8 | 29·04 | 43·9 | − 0 34·1 | ………… | +86 35 52·5 |
| | (*d*) Saturn Centre | 19·0 | 20·3 | +0·5 | 112 49 20·2 | − 0·1 | …… | …… | …… | + 4 40·1 | ………… | −22 48 32·2 |
| | Jupiter Centre | 15·4 | 16·0 | +0·5 | 112 54 16·2 | …… | 38·7 | 29·04 | 42·6 | + 4 42·8 | ………… | −22 53 31·0 |
| | Uranus | 43·7 | 45·7 | +0·3 | 92 45 45·0 | …… | 35·0 | 29·02 | 36·7 | + 1 35·1 | ………… | − 2 41 52·1 |
| | σ Andromedæ | 59·3 | 60·8 | +0·1 | 54 10 0·1 | …… | …… | …… | …… | + 0 21·2 | ………… | +35 55 6·7 |
| | ϱ Andromedæ | 58·0 | 59·0 | +0·1 | 52 58 58·6 | …… | …… | …… | …… | + 0 19·9 | ………… | +37 6 9·5 |
| | 12 Cassiopeæ | 41·4 | 42·5 | −0·1 | 29 7 42·0 | …… | …… | …… | …… | − 0 5·1 | ………… | +60 57 51·1 |
| | Piazzi O. 74 | 27·7 | 29·3 | +0·1 | 46 33 28·7 | …… | …… | …… | …… | + 0 12·8 | ………… | +43 31 46·5 |
| | Piazzi O. 118 | 0·2 | 2·1 | 0·0 | 36 47 1·1 | …… | …… | …… | …… | + 0 2·7 | ………… | +53 18 24·2 |
| | A.S.C. 64 | 49·0 | 48·8 | +0·4 | 102 42 49·4 | …… | …… | …… | …… | + 2 27·3 | ………… | −12 39 48·7 |
| | $\varphi^1$ Ceti | 55·5 | 56·1 | +0·4 | 101 30 56·2 | …… | …… | …… | …… | + 2 18·6 | ………… | −11 27 46·8 |
| | ν Cassiopeæ | 28·5 | 29·7 | 0·0 | 39 58 29·2 | …… | …… | …… | …… | + 0 5·9 | ………… | +50 6 52·9 |
| | Piazzi O. 209 | 36·8 | 38·3 | −0·1 | 29 49 37·5 | …… | …… | …… | …… | − 0 4·4 | ………… | +60 15 54·9 |
| | 36 Andromedæ | 58·2 | 60·1 | +0·1 | 67 17 59·3 | …… | …… | …… | …… | + 0 38·0 | ………… | +22 46 50·7 |
| | 39 Andromedæ | 58·1 | 60·9 | +0·1 | 49 34 59·6 | …… | …… | …… | …… | + 0 16·1 | ………… | +40 30 12·3 |
| | 28 Ceti | 58·8 | 58·8 | +0·4 | 100 43 59·2 | …… | …… | …… | …… | + 2 13·6 | ………… | −10 40 44·8 |
| | χ Piscium | 40·1 | 39·9 | +0·1 | 69 52 40·2 | …… | …… | …… | …… | + 0 41·9 | ………… | +20 12 5·9 |
| | (*e*) α Ursæ Minoris | 33·8 | 36·2 | −0·5 | 1 37 34·6 | + 0·3 | …… | …… | …… | − 0 37·0 | ………… | +88 28 30·1 |
| | Groomb. 1977 S.P. | 21·7 | 25·2 | −0·5 | 351 24 23·0 | …… | …… | …… | …… | − 0 53·7 | ………… | +81 18 1·3 |
| | $\theta^1$ Ceti | 55·9 | 57·5 | +0·4 | 99 2 57·2 | …… | 35·5 | 29·05 | 36·6 | + 2 3·6 | ………… | − 8 59 32·8 |
| Oct. 25 | (*f*) Uranus | 24·9 | 25·5 | +0·3 | 92 46 25·4 | …… | 33·0 | 28·75 | 37·0 | + 1 34·6 | 4·9 | − 2 42 31·9 |
| | (*g*) Nadir | 0·5<br>5·9 | 4·8<br>9·7 | −0·1 | 214 8 5·0 | …… | …… | …… | …… | ……… | ………… | ………… |
| | ……………………… | 5·9<br>0·3 | 9·0<br>4·1 | −0·1 | 214 8 4·8 | …… | …… | …… | …… | ……… | ………… | ………… |
| | Piazzi O. 124 | 41·9 | 44·3 | +0·1 | 46 27 43·3 | …… | 32·0 | 28·74 | 37·6 | + 0 12·7 | ………… | +43 37 32·1 |
| | A.S.C. 64 | 49·9 | 49·9 | +0·4 | 102 42 50·4 | …… | …… | …… | …… | + 2 26·7 | ………… | −12 39 49·0 |
| | 23 Cassiopeæ | 14·6 | 17·1 | −0·4 | 16 6 15·4 | …… | …… | …… | …… | − 0 18·9 | ………… | +73 59 31·6 |
| | ν Cassiopeæ | 27·5 | 29·3 | 0·0 | 39 58 28·5 | …… | …… | …… | …… | + 0 5·9 | ………… | +50 6 53·7 |
| | Piazzi O. 209 | 35·8 | 37·0 | −0·1 | 29 49 36·3 | …… | …… | …… | …… | − 0 4·4 | ………… | +60 15 56·2 |
| | 36 Andromedæ | 57·9 | 59·7 | +0·1 | 67 17 59·0 | …… | …… | …… | …… | + 0 37·9 | ………… | +22 46 51·2 |
| | 39 Andromedæ | 59·0 | 61·1 | +0·1 | 49 35 0·1 | …… | …… | …… | …… | + 0 16·0 | ………… | +40 30 12·0 |
| | 28 Ceti | 57·9 | 57·6 | +0·4 | 100 43 58·2 | …… | …… | …… | …… | + 2 13·1 | ………… | −10 40 43·2 |
| | 32 Cassiopeæ | 29·7 | 29·0 | −0·2 | 25 54 29·2 | …… | …… | …… | …… | − 0 8·4 | ………… | +64 11 7·3 |
| | (*h*) α Ursæ Minoris | 33·0 | 35·0 | −0·5 | 1 37 33·6 | 0·0 | …… | …… | …… | − 0 36·9 | ………… | +88 28 31·4 |
| | 47 Andromedæ | 19·6 | 20·1 | +0·1 | 53 11 19·9 | …… | 31·8 | 28·71 | 35·2 | + 0 20·0 | ………… | +36 53 48·2 |
| | ω Andromedæ | 25·6 | 27·3 | +0·1 | 45 29 26·6 | …… | …… | …… | …… | + 0 11·6 | ………… | +44 35 49·9 |
| Oct. 26 | (*i*) Uranus | 4·0 | 7·2 | +0·3 | 92 47 5·8 | 0·0 | 36·3 | 28·89 | 37·5 | + 1 34·5 | 4·9 | − 2 43 12·2 |
| | (*k*) Nadir | 0·8<br>5·2 | 4·9<br>9·5 | −0·1 | 214 8 4·9 | …… | …… | …… | …… | ……… | ………… | ………… |
| | ……………………… | 5·0<br>0·9 | 8·5<br>5·1 | −0·1 | 214 8 4·9 | …… | …… | …… | …… | ……… | ………… | ………… |
| | Piazzi O. 118 | 58·8 | 62·0 | 0·0 | 36 47 0·3 | …… | 36·8 | 28·90 | 37·8 | + 0 2·7 | ………… | +53 18 25·1 |
| | 32 Andromedæ | 9·8 | 11·2 | +0·1 | 51 29 10·6 | …… | …… | …… | …… | + 0 18·0 | ………… | +38 35 59·5 |
| | 21 Cassiopeæ | 50·5 | 52·8 | −0·4 | 15 57 51·3 | …… | …… | …… | …… | − 0 18·9 | ………… | +74 7 55·7 |
| | ν Cassiopeæ | 28·0 | 30·6 | 0·0 | 39 58 29·4 | …… | …… | …… | …… | + 0 5·9 | ………… | +50 6 52·8 |

(*a*) At 0$^h$ 45$^m$.
(*b*) At 13$^h$ 30$^m$.
(*c*) At 18$^h$ 24$^m$ 33$^s$.

(*d*) Faint; Wire IV.
(*e*) At 1$^h$ 6$^m$ 20$^s$.
(*f*) New Barometer employed from this time.

(*g*) At 0$^h$ 20$^m$.
(*h*) At 1$^h$ 4$^m$.

(*i*) Wire IV.
(*k*) At 23$^h$ 55$^m$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Oct. 26 | Piazzi O. 209 | 35·7 | 37·9 | −0·1 | 29 49 36·7 | ...... | ...... | ...... | ...... | − 0 4·3 | 304 8 4·9 | +60 15 55·7 |
| | 36 Andromedæ | 0·0 | 1·8 | +0·1 | 67 18 1·1 | ...... | ...... | ...... | ...... | + 0 37·7 | ............ | +22 46 49·3 |
| | 39 Andromedæ | 58·0 | 61·1 | +0·1 | 49 34 59·7 | ...... | ...... | ...... | ...... | + 0 15·9 | ............ | +40 30 12·5 |
| | 28 Ceti | 0·0 | 0·0 | +0·4 | 100 44 0·4 | ...... | ...... | ...... | ...... | + 2 12·5 | ............ | −10 40 44·8 |
| | 31 Cassiopeæ | 0·3 | 2·9 | −0·2 | 22 9 1·4 | ...... | ...... | ...... | ...... | − 0 12·3 | ............ | +67 56 39·0 |
| | 82 Piscium | 30·0 | 31·0 | +0·1 | 59 29 30·6 | ...... | ...... | ...... | ...... | + 0 27·4 | ............ | +30 35 30·1 |
| | (*a*) α Ursæ Minoris | 31·8 | 35·0 | −0·5 | 1 37 33·0 | + 0·2 | ...... | ...... | ...... | − 0 36·7 | ............ | +88 28 31·6 |
| | Groomb. 1977 S.P. | 19·5 | 23·4 | −0·5 | 351 24 21·0 | ...... | ...... | ...... | ...... | − 0 53·3 | ............ | +81 17 59·6 |
| | 47 Andromedæ | 18·9 | 20·8 | +0·1 | 53 11 19·9 | ...... | ...... | ...... | ...... | + 0 19·9 | ............ | +36 53 48·3 |
| | ω Andromedæ | 25·1 | 27·6 | +0·1 | 45 29 26·5 | ...... | ...... | ...... | ...... | + 0 11·6 | ............ | +44 35 50·0 |
| | 49 Andromedæ | 22·6 | 25·1 | 0·0 | 43 53 23·9 | ...... | 37·0 | 28·92 | 37·7 | + 0 9·9 | ............ | +46 11 54·3 |
| | (*b*) 30 Monocerotis | 34·9 | 36·2 | +0·3 | 93 27 36·0 | 0·0 | ...... | ...... | ...... | + 1 37·1 | 4·8 | − 3 23 45·1 |
| | (*c*) θ Cancri | 27·7 | 28·2 | +0·1 | 71 27 27·9 | 0·0 | ...... | ...... | ...... | + 0 44·0 | ............ | +18 37 16·1 |
| | (*d*) Moon South Limb | 34·0 | ...... | +0·1 | 74 9 35·1 | +10·4 | ...... | ...... | ...... | + 0 48·6 | ............ | +15 54 53·9 |
| | (*e*) ...... | ...... | 47·0 | +0·1 | 74 9 46·1 | − 0·2 | ...... | ...... | ...... | + 0 48·6 | ............ | +15 54 53·5 |
| | (*f*) ...... | 51·7 | 53·7 | +0·1 | 74 9 52·8 | − 8·1 | 37·5 | 29·01 | 38·4 | + 0 48·6 | ............ | +15 54 54·7 |
| Oct. 27 | (*g*) Moon South Limb | 4·5 | ...... | +0·1 | 79 25 6·5 | +11·4 | ...... | ...... | ...... | + 0 58·3 | ............ | +10 39 11·8 |
| | (*h*) ...... | ...... | 17·0 | +0·1 | 79 25 15·1 | + 0·2 | ...... | ...... | ...... | + 0 58·3 | ............ | +10 39 14·4 |
| | (*i*) ...... | 21·5 | 25·4 | +0·1 | 79 25 23·5 | − 7·6 | 42·7 | 29·31 | 42·8 | + 0 58·3 | ............ | +10 39 13·8 |
| | α Leonis | 33·7 | 37·0 | +0·1 | 77 20 35·4 | ...... | 43·0 | ...... | ...... | + 0 54·2 | ............ | +12 43 58·4 |
| Oct. 28 | (*k*) Moon South Limb | 46·8 | ...... | +0·2 | 85 26 48·1 | +15·1 | ...... | ...... | ...... | + 1 13·7 | ............ | + 4 37 11·1 |
| | (*l*) ...... | ...... | 6·3 | +0·2 | 85 27 5·2 | − 3·1 | ...... | ...... | ...... | + 1 13·7 | ............ | + 4 37 12·2 |
| | (*m*) ...... | 12·7 | 15·1 | +0·2 | 85 27 14·0 | −11·8 | 36·5 | 29·58 | 38·0 | + 1 13·7 | ............ | + 4 37 12·1 |
| | Mars Centre | 53·1 | 55·0 | +0·2 | 86 25 54·2 | ...... | 36·5 | 29·59 | 37·2 | + 1 16·4 | ............ | + 3 38 17·4 |
| Oct. 29 | 32 Andromedæ | 7·8 | 10·2 | +0·1 | 51 29 9·1 | ...... | ...... | ...... | ...... | + 0 18·4 | ............ | +38 36 0·5 |
| | 21 Cassiopeæ | 50·0 | 52·8 | −0·4 | 15 57 51·1 | ...... | ...... | ...... | ...... | − 0 19·4 | ............ | +74 7 56·3 |
| | 23 Cassiopeæ | 13·0 | 16·4 | −0·4 | 16 6 14·2 | ...... | 38·1 | 29·61 | 38·8 | − 0 19·2 | ............ | +73 59 33·0 |
| | (*b*) $\upsilon^2$ Cassiopeæ | 23·1 | 25·5 | −0·1 | 31 45 24·2 | + 0·3 | ...... | ...... | ...... | − 0 2·4 | ............ | +58 20 5·9 |
| | $\sigma^1$ Piscium | 10·5 | 13·2 | +0·1 | 59 7 11·9 | ...... | ...... | ...... | ...... | + 0 27·5 | ............ | +30 57 48·6 |
| | μ Cassiopeæ | 18·4 | 20·8 | 0·0 | 35 56 19·5 | ...... | ...... | ...... | ...... | + 0 1·8 | ............ | +54 9 6·7 |
| | 31 Cassiopeæ | 58·1 | 62·1 | −0·2 | 22 8 59·9 | ...... | ...... | ...... | ...... | − 0 12·5 | ............ | +67 56 40·6 |
| | Piazzi I. 9 | 58·8 | 61·6 | +0·1 | 45 35 0·3 | ...... | ...... | ...... | ...... | + 0 11·9 | ............ | +44 30 15·8 |
| | (*n*) α Ursæ Minoris | 31·5 | 35·5 | −0·5 | 1 37 33·1 | + 0·3 | ...... | ...... | ...... | − 0 37·5 | ............ | +88 28 32·1 |
| | φ Cassiopeæ | 1·1 | 3·8 | −0·1 | 32 41 2·3 | ...... | 38·2 | 29·61 | 38·8 | − 0 1·5 | ............ | +57 24 27·2 |
| Oct. 31 | (*o*) α Ursæ Minoris S.P. | 50·6 | 56·5 | −0·6 | 358 34 53·0 | −11·3 | 51·9 | 29·89 | 51·0 | − 0 41·3 | ............ | +88 28 32·4 |
| Nov. 1 | Sun North Limb | 10·2 | 12·0 | +0·4 | 104 11 11·4 | ...... | 53·2 | 29·89 | 52·3 | + 2 37·6 | ............ | −14 8 21·0 |
| Nov. 4 | 32 Andromedæ | 7·8 | 9·9 | +0·1 | 51 29 9·0 | ...... | 40·8 | 30·16 | 42·7 | + 0 18·7 | ............ | +38 36 0·3 |
| Nov. 7 | (*c*) 31 Cassiopeæ | 56·0 | 59·0 | −0·2 | 22 8 57·4 | 0·0 | ...... | ...... | ...... | − 0 12·6 | ............ | +67 56 43·2 |
| | Piazzi I. 9 | 57·5 | 60·1 | +0·1 | 45 34 58·9 | ...... | ...... | ...... | ...... | + 0 12·0 | ............ | +44 30 17·1 |
| | (*p*) α Ursæ Minoris | 28·6 | 32·5 | −0·5 | 1 37 29·9 | + 0·3 | 40·2 | 29·84 | 40·8 | − 0 37·7 | ............ | +88 28 35·5 |
| | (*b*) φ Cassiopeæ | 58·0 | 61·0 | −0·1 | 32 40 59·3 | + 0·3 | ...... | ...... | ...... | − 0 1·5 | ............ | +57 24 29·9 |
| | 47 Andromedæ | 16·3 | 19·0 | +0·1 | 53 11 17·7 | ...... | ...... | ...... | ...... | + 0 20·4 | ............ | +36 53 49·9 |
| | ω Andromedæ | 21·2 | 24·7 | +0·1 | 45 29 23·1 | ...... | ...... | ...... | ...... | + 0 11·9 | ............ | +44 35 53·0 |
| | 49 Andromedæ | 19·4 | 22·8 | 0·0 | 43 53 21·2 | ...... | ...... | ...... | ...... | + 0 10·1 | ............ | +46 11 56·7 |
| | χ Cassiopeæ | 50·6 | 53·2 | −0·1 | 31 39 51·8 | ...... | ...... | ...... | ...... | − 0 2·6 | ............ | +58 25 38·8 |
| | 40 Cassiopeæ | 19·3 | 21·9 | −0·3 | 17 51 20·2 | ...... | 40·0 | ...... | ...... | − 0 17·3 | ............ | +72 14 25·1 |
| Nov. 8 | Sun South Limb | 0·3 | 2·2 | +0·4 | 106 52 1·5 | ...... | 46·9 | 29·63 | 46·3 | + 3 4·2 | ............ | −16 49 37·7 |

(*a*) At $1^h\ 5^m\ 45^s$.
(*b*) Wire IV.
(*c*) Wire III.
(*d*) At $8^h\ 33^m\ 20^s$.

(*e*) At $8^h\ 34^m\ 13^s$.
(*f*) At $8^h\ 34^m\ 55^s$.
(*g*) At $9^h\ 29^m\ 42^s$.
(*h*) At $9^h\ 30^m\ 29^s$.

(*i*) At $9^h\ 31^m\ 3^s$.
(*k*) At $10^h\ 24^m\ 43^s$.
(*l*) At $10^h\ 25^m\ 53^s$.
(*m*) At $10^h\ 26^m\ 27^s$.

(*n*) At $1^h\ 6^m\ 30^s$.
(*o*) At $13^h\ 19^m\ 20^s$.
(*p*) At $1^h\ 6^m\ 0^s$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ″ | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Nov. 9 | Sun North Limb | 12·6 | 13·3 | +0·4 | 106 37 13·2 | ...... | 50·4 | 28·84 | 49·8 | + 2 55·3 | 304 8 4·8 | −16 34 40·5 |
| | (*a*) δ Ursæ Minoris | 59·9 | 65·8 | −0·5 | 3 30 2·3 | + 9·8 | 46·2 | 28·88 | 47·1 | − 0 33·5 | ............ | +86 35 49·4 |
| | (*b*) Saturn Centre | 43·6 | 45·6 | +0·5 | 112 45 45·1 | ...... | ...... | ...... | ...... | + 4 33·7 | ............ | −22 44 50·8 |
| | Jupiter Centre | 48·5 | 49·9 | +0·5 | 112 36 49·6 | ...... | 45·3 | 28·91 | 46·6 | + 4 31·7 | ............ | −22 35 53·3 |
| | (*c*) Moon South Limb | 10·6 | ...... | +0·4 | 105 25 11·8 | − 6·3 | ...... | ...... | ...... | + 2 46·5 | ............ | −15 22 24·0 |
| | (*d*) ...................... | ...... | 2·3 | +0·4 | 105 25 2·0 | + 0·4 | ...... | ...... | ...... | + 2 46·5 | ............ | −15 22 20·9 |
| | (*e*) ...................... | 55·7 | 57·2 | +0·4 | 105 24 56·9 | + 7·0 | 43·5 | 28·94 | 45·0 | + 2 46·5 | ............ | −15 22 22·4 |
| | ι Capricorni | 13·8 | 14·9 | +0·4 | 107 32 14·6 | ...... | ...... | ...... | ...... | + 3 8·7 | ............ | −17 29 55·3 |
| | β Aquarii | 3·0 | 5·8 | +0·3 | 96 19 4·7 | ...... | 43·3 | ...... | ...... | + 1 47·6 | ............ | − 6 15 24·3 |
| | Piazzi O. 118 | 56·4 | 59·2 | 0·0 | 36 46 57·7 | ...... | ...... | ...... | ...... | + 0 2·7 | ............ | +53 18 27·6 |
| | ξ Cassiopeæ | 1·3 | 3·6 | 0·0 | 40 26 2·4 | ...... | ...... | ...... | ...... | + 0 6·4 | ............ | +49 39 19·2 |
| | 21 Cassiopeæ | 45·2 | 47·2 | −0·4 | 15 57 45·9 | ...... | ...... | ...... | ...... | − 0 18·9 | ............ | +74 8 1·0 |
| | 23 Cassiopeæ | 7·4 | 11·3 | −0·4 | 16 6 8·9 | ...... | 40·4 | 29·04 | 42·3 | − 0 18·7 | ............ | +73 59 37·8 |
| | (*f*) α Ursæ Minoris | 1·8 | 6·4 | −0·5 | 1 37 3·5 | +24·6 | ...... | ...... | ...... | − 0 36·7 | ............ | +88 28 36·6 |
| | 67 Piscium | 13·8 | 15·4 | +0·1 | 63 43 14·8 | ...... | ...... | ...... | ...... | + 0 32·7 | ............ | +26 21 40·5 |
| | $\sigma^1$ Piscium | 9·1 | 11·5 | +0·1 | 59 7 10·3 | ...... | ...... | ...... | ...... | + 0 26·8 | ............ | +30 57 50·9 |
| | μ Cassiopeæ | 16·2 | 18·8 | 0·0 | 35 56 17·4 | ...... | ...... | ...... | ...... | + 0 1·8 | ............ | +54 9 8·8 |
| | 32 Cassiopeæ | 23·0 | 25·2 | −0·2 | 25 54 23·9 | ...... | ...... | ...... | ...... | − 0 8·3 | ............ | +64 11 12·4 |
| | Piazzi I. 9 | 57·1 | 59·9 | +0·1 | 45 34 58·6 | ...... | ...... | ...... | ...... | + 0 11·7 | ............ | +44 30 17·7 |
| | α Ursæ Minoris | 26·5 | 30·6 | −0·5 | 1 37 27·9 | ...... | ...... | ...... | ...... | − 0 36·7 | ............ | +88 28 36·8 |
| | Groomb. 1977 S.P. | 13·7 | 18·0 | −0·5 | 351 24 15·4 | ...... | ...... | ...... | ...... | − 0 53·1 | ............ | +81 17 54·3 |
| | 38 Cassiopeæ | 11·6 | 14·1 | −0·3 | 20 38 12·6 | ...... | ...... | ...... | ...... | − 0 13·8 | ............ | +69 27 29·2 |
| | χ Cassiopeæ | 49·0 | 51·6 | −0·1 | 31 39 50·2 | ...... | ...... | ...... | ...... | − 0 2·5 | ............ | +58 25 40·3 |
| | 40 Cassiopeæ | 17·8 | 21·0 | −0·3 | 17 51 19·0 | ...... | ...... | ...... | ...... | − 0 16·8 | ............ | +72 14 25·8 |
| | (*g*) χ Andromedæ | 52·8 | 56·0 | +0·1 | 46 29 54·5 | + 0·2 | 40·5 | 29·05 | 41·8 | + 0 12·6 | ............ | +43 35 20·7 |
| | 60 Andromedæ | 31·2 | 33·6 | +0·1 | 46 35 32·5 | ...... | ...... | ...... | ...... | + 0 12·7 | ............ | +43 29 42·8 |
| | 3 Ursæ Minoris S.P. | 37·8 | 42·2 | −0·5 | 345 26 39·4 | ...... | ...... | ...... | ...... | − 1 5·4 | ............ | +75 20 6·0 |
| | γ Trianguli | 45·7 | 48·0 | +0·1 | 56 57 47·1 | ...... | ...... | ...... | ...... | + 0 24·3 | ............ | +33 7 16·6 |
| | 63 Andromedæ | 28·8 | 30·6 | 0·0 | 40 39 29·7 | ...... | ...... | ...... | ...... | + 0 6·6 | ............ | +49 25 51·7 |
| | Groombridge 506 | 13·8 | 17·8 | −0·5 | 9 9 15·3 | ...... | 40·1 | 29·06 | 41·7 | − 0 26·8 | ............ | +80 56 39·5 |
| Nov. 11 | (*h*) Nadir | 1·2<br>5·0 | 4·1<br>8·6 | −0·1 | 214 8 4·7 | ...... | ...... | ...... | ...... | ......... | 4·8 | ............... |
| | ...................... | 5·1<br>0·2 | 9·8<br>5·2 | −0·1 | 214 8 4·8 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| Nov. 12 | Piazzi O. 124 | 38·0 | 41·9 | +0·1 | 46 27 40·2 | ...... | 43·8 | 28·85 | 44·6 | + 0 12·4 | 4·9 | +43 37 35·5 |
| | ξ Cassiopeæ | 1·0 | 4·6 | 0·0 | 40 26 2·7 | ...... | ...... | ...... | ...... | + 0 6·3 | ............ | +49 39 19·1 |
| | ο Cassiopeæ | 32·9 | 36·2 | 0·0 | 42 39 34·6 | ...... | ...... | ...... | ...... | + 0 8·5 | ............ | +47 25 45·0 |
| | (*h*) α Ursæ Minoris | 53·5 | 58·9 | −0·5 | 1 36 55·6 | +31·0 | ...... | ...... | ...... | − 0 36·2 | ............ | +88 28 37·7 |
| | $\upsilon^1$ Cassiopeæ | 54·0 | 57·0 | −0·1 | 31 57 55·5 | ...... | ...... | ...... | ...... | − 0 2·2 | ............ | +58 7 34·8 |
| | 67 Piscium | 14·7 | 16·5 | +0·1 | 63 43 15·8 | ...... | ...... | ...... | ...... | + 0 32·2 | ............ | +26 21 40·1 |
| | $\sigma^1$ Piscium | 8·8 | 13·4 | +0·1 | 59 7 11·1 | ...... | ...... | ...... | ...... | + 0 26·6 | ............ | +30 57 50·4 |
| | $\psi^2$ Piscium | 22·0 | 24·1 | +0·1 | 70 10 23·1 | ...... | ...... | ...... | ...... | + 0 41·3 | ............ | +19 54 23·7 |
| | 32 Cassiopeæ | 22·6 | 25·0 | −0·2 | 25 54 23·6 | ...... | ...... | ...... | ...... | − 0 8·2 | ............ | +64 11 12·7 |
| | (*i*) α Ursæ Minoris | 24·2 | 29·0 | −0·5 | 1 37 25·6 | + 0·1 | ...... | ...... | ...... | − 0 36·2 | ............ | +88 28 38·6 |
| | φ Cassiopeæ | 56·6 | 60·4 | −0·1 | 32 40 58·3 | ...... | ...... | ...... | ...... | − 0 1·4 | ............ | +57 24 31·2 |
| | (*g*) 49 Andromedæ | 18·8 | 22·1 | 0·0 | 43 53 20·5 | + 0·2 | ...... | ...... | ...... | + 0 9·8 | ............ | +46 11 57·6 |
| | χ Cassiopeæ | 48·8 | 52·0 | −0·1 | 31 39 50·3 | ...... | ...... | ...... | ...... | − 0 2·4 | ............ | +58 25 40·2 |
| | 40 Cassiopeæ | 17·1 | 21·0 | −0·3 | 17 51 18·7 | ...... | 43·3 | 28·84 | 44·2 | − 0 16·6 | ............ | +72 14 26·0 |
| | 44 Cassiopeæ | 50·9 | 54·1 | −0·1 | 30 19 52·4 | ...... | ...... | ...... | ...... | − 0 3·8 | ............ | +59 45 39·5 |
| | (*k*) α Ursæ Minoris | 32·1 | 36·8 | −0·5 | 1 36 33·9 | +52·1 | ...... | ...... | ...... | − 0 36·2 | ............ | +88 28 38·3 |
| | Piazzi I. 170 | 47·0 | 49·3 | +0·1 | 52 54 48·3 | ...... | ...... | ...... | ...... | + 0 19·3 | ............ | +37 10 20·5 |
| | 1 Persei | 8·4 | 12·0 | 0·0 | 35 43 10·3 | ...... | ...... | ...... | ...... | + 0 1·6 | ............ | +54 22 16·2 |
| | 55 Andromedæ | 47·3 | 51·2 | +0·1 | 50 7 49·5 | ...... | ...... | ...... | ...... | + 0 16·3 | ............ | +39 57 22·3 |
| | Piazzi I. 203 | 35·5 | 37·8 | +0·1 | 53 34 36·8 | ...... | ...... | ...... | ...... | + 0 20·1 | ............ | +36 30 31·2 |

(*a*) At $18^h\ 32^m\ 20^s$.
(*b*) Faint.
(*c*) At $21^h\ 1^m\ 18^s$.
(*d*) At $21^h\ 1^m\ 53^s$.
(*e*) At $21^h\ 2^m\ 30^s$.
(*f*) At $0^h\ 42^m\ 30^s$.
(*g*) Wire IV.
(*h*) At $0^h\ 40^m$.
(*i*) At $1^h\ 5^m$.
(*k*) At $1^h\ 36^m\ 58^s$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Nov. 12 | 49 Cassiopeæ | 13·3 | 16·2 | −0·4 | 14 44 14·4 | ...... | ...... | ...... | ...... | − 0 20·0 | 304 8 4·9 | +75 21 33·7 |
| | ε Trianguli | 21·0 | 24·0 | +0·1 | 57 33 22·7 | ...... | ...... | ...... | ...... | + 0 24·6 | ............ | +32 31 40·8 |
| | 58 Andromedæ | 14·8 | 17·2 | +0·1 | 52 58 16·2 | ...... | ...... | ...... | ...... | + 0 19·4 | ............ | +37 6 52·5 |
| | 55 Cassiopeæ | 21·7 | 24·2 | −0·2 | 24 18 22·8 | ...... | ...... | ...... | ...... | − 0 9·9 | ............ | +65 47 15·2 |
| | 3 Ursæ Minoris S.P. | 36·8 | 41·0 | −0·5 | 345 26 38·3 | ...... | ...... | ...... | ...... | − 1 4·6 | ............ | +75 20 5·6 |
| | γ Trianguli | 45·8 | 48·8 | +0·1 | 56 57 47·5 | ...... | ...... | ...... | ...... | + 0 23·9 | ............ | +33 7 16·7 |
| | 63 Andromedæ | 28·5 | 30·2 | 0·0 | 40 39 29·4 | ...... | ...... | ...... | ...... | + 0 6·5 | ............ | +49 25 52·2 |
| | Groombridge 506 | 12·9 | 17·0 | −0·5 | 9 9 14·5 | ...... | ...... | ...... | ...... | − 0 26·5 | ............ | +80 56 40·1 |
| | ϱ Ceti | 57·5 | 57·8 | +0·4 | 103 2 58·2 | ...... | ...... | ...... | ...... | + 2 26·4 | ............ | −12 59 56·5 |
| | 14 Trianguli | 4·2 | 7·0 | +0·1 | 54 38 5·8 | ...... | ...... | ...... | ...... | + 0 21·3 | ............ | +35 27 1·0 |
| | 80 Ceti | 22·9 | 25·0 | +0·3 | 98 34 24·3 | ...... | ...... | ...... | ...... | + 1 58·3 | ............ | − 8 30 54·5 |
| | 84 Ceti | 48·1 | 50·5 | +0·2 | 91 25 49·5 | ...... | ...... | ...... | ...... | + 1 28·3 | ............ | − 1 21 49·7 |
| | (*a*) 35 Arietis | 37·8 | 37·9 | +0·1 | 63 2 38·1 | ...... | 42·8 | 28·84 | 43·4 | + 0 31·4 | ............ | +27 2 18·6 |
| Nov. 13 | (*b*) Moon South Limb | 37·8 | ...... | +0·2 | 85 23 39·1 | − 8·2 | ...... | ...... | ...... | + 1 11·6 | ............ | + 4 40 45·6 |
| | (*c*) ............ | ...... | 30·1 | +0·2 | 85 23 29·4 | − 0·6 | ...... | ...... | ...... | + 1 11·6 | ............ | + 4 40 47·7 |
| | (*d*) ............ | 22·8 | 24·8 | +0·2 | 85 23 24·1 | + 6·1 | 40·8 | 29·05 | 43·8 | + 1 11·6 | ............ | + 4 40 46·3 |
| | 41 Piscium | 5·5 | 7·0 | +0·2 | 82 45 6·4 | ...... | ...... | ...... | ...... | + 1 5·2 | ............ | + 7 19 16·5 |
| Nov. 14 | Sun South Limb | 20·9 | 24·0 | +0·4 | 108 31 22·8 | ...... | 37·0 | 29·51 | 39·2 | + 3 27·7 | ............ | −18 29 22·4 |
| | δ Ursæ Minoris | 12·2 | 17·0 | −0·5 | 3 30 14·1 | ...... | 37·5 | 29·53 | 41·3 | − 0 34·9 | ............ | +86 35 48·9 |
| | (*e*) 41 Piscium | 4·2 | 6·9 | +0·2 | 82 45 5·7 | 0·0 | 34·9 | 29·57 | 39·8 | + 1 7·2 | ............ | + 7 19 15·2 |
| | Piazzi O. 124 | 38·0 | 40·5 | +0·1 | 46 27 39·5 | ...... | ...... | ...... | ...... | + 0 13·0 | ............ | +43 37 35·6 |
| | ξ Cassiopeæ | 1·5 | 3·8 | 0·0 | 40 26 2·6 | ...... | ...... | ...... | ...... | + 0 6·5 | ............ | +49 39 19·0 |
| | ο Cassiopeæ | 33·0 | 36·0 | 0·0 | 42 39 34·5 | ...... | ...... | ...... | ...... | + 0 8·9 | ............ | +47 25 44·7 |
| | (*f*) α Ursæ Minoris | 55·2 | 59·3 | −0·5 | 1 36 56·6 | +31·1 | ...... | ...... | ...... | − 0 37·8 | ............ | +88 28 38·2 |
| | (*g*) Moon South Limb | 42·8 | ...... | +0·1 | 80 22 43·8 | − 8·4 | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 41 50·8 |
| | (*h*) ............ | ...... | 35·1 | +0·1 | 80 22 34·1 | − 0·2 | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 41 52·3 |
| | (*i*) ............ | 27·0 | 29·0 | +0·1 | 80 22 28·0 | + 7·1 | ...... | ...... | ...... | + 1 1·9 | ............ | + 9 41 51·1 |
| | $\psi^2$ Piscium | 21·0 | 21·5 | +0·1 | 70 10 21·3 | ...... | ...... | ...... | ...... | + 0 43·1 | ............ | +19 54 23·7 |
| | 45 Andromedæ | 37·7 | 38·9 | +0·1 | 53 11 38·3 | ...... | ...... | ...... | ...... | + 0 20·5 | ............ | +36 53 29·3 |
| | (*k*) α Ursæ Minoris | 27·0 | 30·0 | −0·5 | 1 37 27·9 | + 0·1 | ...... | ...... | ...... | − 0 37·8 | ............ | +88 28 37·9 |
| | 38 Cassiopeæ | 11·8 | 13·9 | −0·3 | 20 38 12·6 | ...... | ...... | ...... | ...... | − 0 14·2 | ............ | +69 27 29·7 |
| | η Piscium | 16·9 | 20·0 | +0·1 | 75 32 18·4 | ...... | ...... | ...... | ...... | + 0 52·2 | ............ | +14 32 17·5 |
| | Piazzi I. 113 | 56·1 | 59·2 | 0·0 | 42 9 57·7 | ...... | ...... | ...... | ...... | + 0 8·4 | ............ | +47 25 22·0 |
| | χ Andromedæ | 53·8 | 56·9 | +0·1 | 46 29 55·5 | ...... | ...... | ...... | ...... | + 0 13·0 | ............ | +43 35 19·6 |
| | υ Andromedæ | 34·2 | 36·4 | +0·1 | 48 15 35·4 | ...... | ...... | ...... | ...... | + 0 14·9 | ............ | +41 49 37·8 |
| | Piazzi I. 170 | 46·5 | 47·9 | +0·1 | 52 54 47·3 | ...... | 35·0 | 29·56 | 38·2 | + 0 20·2 | ............ | +37 10 20·6 |
| | 1 Persei | 8·8 | 11·8 | 0·0 | 35 43 10·4 | ...... | ...... | ...... | ...... | + 0 1·6 | ............ | +54 22 16·1 |
| | 55 Andromedæ | 47·5 | 49·7 | +0·1 | 50 7 48·8 | ...... | ...... | ...... | ...... | + 0 17·0 | ............ | +39 57 22·3 |
| | Piazzi I. 203 | 34·9 | 36·6 | +0·1 | 53 34 35·9 | ...... | ...... | ...... | ...... | + 0 20·9 | ............ | +36 30 31·3 |
| | 49 Cassiopeæ | 14·2 | 16·3 | −0·4 | 14 44 14·9 | ...... | ...... | ...... | ...... | − 0 20·9 | ............ | +75 21 34·1 |
| | ε Trianguli | 20·0 | 22·3 | +0·1 | 57 33 21·3 | ...... | ...... | ...... | ...... | + 0 25·7 | ............ | +32 31 41·1 |
| | 58 Andromedæ | 12·8 | 16·1 | +0·1 | 52 58 14·6 | ...... | ...... | ...... | ...... | + 0 20·2 | ............ | +37 6 53·3 |
| | 59 Andromedæ pre. | 12·0 | 14·0 | +0·1 | 51 47 13·0 | ...... | ...... | ...... | ...... | + 0 18·9 | ............ | +38 17 56·2 |
| | 7 Trianguli | 15·1 | 18·2 | +0·1 | 57 27 16·6 | ...... | ...... | ...... | ...... | + 0 25·6 | ............ | +32 37 45·9 |
| | Piazzi II. 41 | 38·2 | 41·0 | 0·0 | 41 51 39·5 | ...... | ...... | ...... | ...... | + 0 8·1 | ............ | +48 13 40·5 |
| | 64 Andromedæ | 42·6 | 44·2 | 0·0 | 40 47 43·5 | ...... | ...... | ...... | ...... | + 0 6·9 | ............ | +49 17 37·7 |
| | 71 Ceti | 13·7 | 15·8 | +0·3 | 93 33 15·1 | ...... | ...... | ...... | ...... | + 1 40·0 | ............ | − 3 29 27·0 |
| | 14 Trianguli | 3·8 | 5·2 | +0·1 | 54 38 4·7 | ...... | ...... | ...... | ...... | + 0 22·2 | ............ | +35 27 1·2 |
| | 80 Ceti | 18·0 | 19·4 | +0·3 | 98 34 19·0 | ...... | 34·9 | 29·56 | 37·6 | + 2 3·3 | ............ | − 8 30 54·2 |
| | ϑ Persei | 31·7 | 33·3 | 0·0 | 41 31 32·4 | ...... | ...... | ...... | ...... | + 0 7·7 | ............ | +48 33 48·0 |
| Nov. 18 | Piazzi O. 128 | 42·3 | 43·5 | +0·1 | 55 32 43·1 | ...... | 39·7 | 29·95 | 41·2 | + 0 23·3 | ............ | +34 32 21·7 |
| | ο Cassiopeæ | 32·2 | 35·1 | 0·0 | 42 39 33·7 | ...... | ...... | ...... | ...... | + 0 8·9 | ............ | +47 25 45·5 |
| | (*l*) α Ursæ Minoris | 54·9 | 59·6 | −0·5 | 1 36 56·6 | +30·6 | ...... | ...... | ...... | − 0 37·9 | ............ | +88 28 38·8 |

(*a*) Wire III.
(*b*) At $0^h\ 1^m\ 28^s$.
(*c*) At $0^h\ 2^m\ 4^s$.
(*d*) At $0^h\ 2^m\ 36^s$.
(*e*) Wire IV.
(*f*) At $0^h\ 40^m$.
(*g*) At $0^h\ 47^m\ 6^s$.
(*h*) At $0^h\ 47^m\ 48^s$.
(*i*) At $0^h\ 48^m\ 24^s$.
(*k*) At $1^h\ 5^m\ 20^s$.
(*l*) At $0^h\ 40^m\ 30^s$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Nov. 18 | 67 Piscium | 13·5 | 14·9 | +0·1 | 63 43 14·4 | ...... | ...... | ...... | ...... | + 0 33·8 | 304 8 4·9 | +26 21 39·9 |
| | μ Cassiopeæ | 13·8 | 16·6 | 0·0 | 35 56 15·1 | ...... | ...... | ...... | ...... | + 0 1·9 | ............ | +54 9 11·1 |
| | (*a*) α Ursæ Minoris | 25·2 | 29·0 | −0·5 | 1 37 26·5 | + 0·1 | 38·7 | ...... | ...... | − 0 38·0 | ............ | +88 28 39·5 |
| Nov. 21 | Sun North Limb | 19·8 | 19·5 | +0·5 | 109 40 20·1 | ...... | 35·8 | 29·61 | 37·1 | + 3 45·8 | ............ | −19 38 37·8 |
| Nov. 23 | Sun South Limb | 26·4 | 26·0 | +0·5 | 110 38 26·8 | ...... | 35·0 | 28·96 | 35·7 | + 3 57·1 | ............ | −20 36 55·8 |
| | (*b*) Venus Centre | 52·5 | 52·5 | +0·5 | 116 51 52·9 | − 0·2 | ...... | ...... | ...... | + 7 8·1 | ............ | −26 53 32·7 |
| | (*c*) δ Ursæ Minoris | 13·3 | 17·5 | −0·5 | 3 30 14·9 | + 0·1 | 35·6 | 28·94 | 36·4 | − 0 34·3 | ............ | +86 35 47·4 |
| | Piazzi O. 128 | 42·5 | 43·8 | +0·1 | 55 32 43·4 | ...... | 32·8 | 28·88 | 36·7 | + 0 22·8 | ............ | +34 32 21·9 |
| | (*d*) α Ursæ Minoris | 39·7 | 42·9 | −0·5 | 1 36 40·7 | +43·3 | ...... | ...... | ...... | − 0 37·1 | ............ | +88 28 41·2 |
| | $\upsilon^1$ Cassiopæ | 52·0 | 54·0 | −0·1 | 31 57 53·0 | ...... | ...... | ...... | ...... | − 0 2·2 | ............ | +58 7 37·3 |
| | $\upsilon^2$ Cassiopeæ | 16·9 | 19·4 | −0·1 | 31 45 18·0 | ...... | ...... | ...... | ...... | − 0 2·4 | ............ | +58 20 12·5 |
| | 41 Andromedæ | 43·1 | 45·5 | +0·1 | 46 58 44·5 | ...... | ...... | ...... | ...... | + 0 13·3 | ............ | +43 6 30·3 |
| | 45 Andromedæ | 37·5 | 39·1 | +0·1 | 53 11 38·3 | ...... | ...... | ...... | ...... | + 0 20·1 | ............ | +36 53 29·7 |
| | (*e*) α Ursæ Minoris | 23·9 | 27·1 | −0·5 | 1 37 24·9 | + 0·2 | ...... | ...... | ...... | − 0 37·1 | ............ | +88 28 40·1 |
| | 38 Cassiopeæ | 9·0 | 11·5 | −0·3 | 20 38 10·0 | ...... | 32·5 | 28·86 | 36·8 | − 0 14·0 | ............ | +69 27 32·1 |
| | Piazzi I. 113 | 54·8 | 58·5 | 0·0 | 42 9 56·7 | ...... | ...... | ...... | ...... | + 0 8·2 | ............ | +47 55 23·2 |
| | χ Andromedæ | 51·9 | 55·2 | +0·1 | 46 29 53·7 | ...... | ...... | ...... | ...... | + 0 12·8 | ............ | +43 35 21·6 |
| | 44 Cassiopeæ | 50·2 | 52·8 | −0·1 | 30 19 51·4 | ...... | ...... | ...... | ...... | − 0 3·9 | ............ | +59 45 40·6 |
| | (*f*) α Ursæ Minoris | 29·0 | 32·2 | −0·5 | 1 36 30·0 | +55·7 | ...... | ...... | ...... | − 0 37·1 | ............ | +88 28 39·5 |
| | Piazzi I. 170 | 44·9 | 46·0 | +0·1 | 52 54 45·6 | ...... | ...... | ...... | ...... | + 0 19·8 | ............ | +37 10 22·7 |
| | 2 Persei | 14·0 | 16·0 | 0·0 | 40 4 15·0 | ...... | ...... | ...... | ...... | + 0 6·0 | ............ | +50 1 7·1 |
| | Piazzi I. 200 | 37·0 | 38·4 | +0·1 | 53 43 37·9 | ...... | ...... | ...... | ...... | + 0 20·7 | ............ | +36 21 29·5 |
| | 49 Cassiopeæ | 10·5 | 12·9 | −0·4 | 14 44 11·3 | ...... | ...... | ...... | ...... | − 0 20·5 | ............ | +75 21 37·3 |
| | ι Trianguli | 20·1 | 22·6 | +0·1 | 57 33 21·5 | ...... | ...... | ...... | ...... | + 0 25·2 | ............ | +32 31 41·4 |
| | 5 Persei | 11·8 | 14·5 | −0·1 | 33 11 13·0 | ...... | ...... | ...... | ...... | − 0 1·0 | ............ | +56 54 16·1 |
| | 6 Persei | 7·9 | 9·9 | 0·0 | 39 45 8·9 | ...... | ...... | ...... | ...... | + 0 5·7 | ............ | +50 20 13·5 |
| | 7 Trianguli | 14·5 | 16·8 | +0·1 | 57 27 15·6 | ...... | ...... | ...... | ...... | + 0 25·1 | ............ | +32 37 47·4 |
| | Piazzi II. 41 | 38·5 | 41·0 | 0·0 | 41 51 39·7 | ...... | 32·0 | 28·83 | 36·3 | + 0 7·9 | ............ | +48 13 40·5 |
| | 64 Andromedæ | 40·9 | 41·1 | 0·0 | 40 47 41·1 | ...... | ...... | ..... | ...... | + 0 6·8 | ............ | +49 17 40·2 |
| | ϱ Ceti | 55·0 | 54·2 | +0·4 | 103 2 55·1 | ...... | ...... | ...... | ...... | + 2 29·6 | ....... .... | −12 59 56·6 |
| | 14 Trianguli | 3·3 | 5·0 | +0·1 | 54 38 4·4 | ...... | ...... | ...... | ...... | + 0 21·7 | ............ | +35 27 2·0 |
| | 81 Ceti | 23·0 | 24·1 | +0·3 | 94 8 23·9 | ...... | ...... | ...... | ...... | + 1 40·3 | ........ ... | − 4 4 36·1 |
| | θ Persei | 30·1 | 31·5 | 0·0 | 41 31 30·7 | ...... | ...... | ...... | ...... | + 0 7·6 | ............ | +48 33 49·8 |
| | 39 Arietis | 18·0 | 19·0 | +0·1 | 61 29 18·6 | ...... | ...... | ...... | ...... | + 0 30·0 | ............ | +28 35 39·5 |
| | 17 Persei | 17·2 | 18·0 | +0·1 | 55 40 17·7 | ...... | ...... | ...... | ...... | + 0 22·9 | ............ | +34 24 47·5 |
| | Piazzi II. 191 | 20·8 | 22·9 | −0·4 | 11 18 21·5 | ...... | ...... | ...... | ... .. | − 0 24·5 | ............ | +78 47 31·1 |
| | 21 Persei | 56·2 | 57·5 | +0·1 | 58 46 56·8 | ...... | ...... | ...... | ...... | + 0 26·6 | ............ | +31 18 4·7 |
| | $\varrho^1$ Eridani | 27·2 | 28·4 | +0·3 | 98 20 28·1 | ...... | ...... | ...... | ...... | + 1 59·5 | ............ | − 8 16 59·5 |
| | $\varrho^2$ Eridani | 43·5 | 43·9 | +0·3 | 98 21 43·9 | ...... | ...... | ...... | ...... | + 1 59·7 | ............ | − 8 18 15·5 |
| | $\varrho^3$ Eridani | 27·8 | 28·1 | +0·3 | 98 16 28·2 | ...... | ...... | ...... | ...... | + 1 59·2 | ............ | − 8 12 59·3 |
| | Piazzi II. 255 | 46·0 | 47·5 | −0·4 | 12 56 46·3 | ...... | ...... | ...... | ...... | − 0 22·5 | ............ | +77 9 4·3 |
| | Groomb. 2213 S.P. | 27·7 | 30·0 | −0·6 | 354 39 28·3 | ...... | ...... | ...... | ...... | − 0 47·8 | ............ | +84 33 12·4 |
| | $\chi^1$ Ceti | 35·5 | 38·0 | +0·2 | 87 16 36·9 | ...... | 32·6 | 28·81 | 35·6 | + 1 17·3 | ............ | + 2 47 33·9 |
| Nov. 24 | Piazzi O. 128 | 43·7 | 44·0 | +0·1 | 55 32 44·1 | ...... | ...... | ...... | ...... | + 0 22·2 | 5·0 | +34 32 21·9 |
| | (*g*) α Ursæ Minoris | 32·2 | 36·1 | −0·5 | 1 36 33·6 | +49·2 | 38·5 | 28·45 | 39·0 | − 0 36·1 | ............ | +88 28 41·5 |
| | (*h*) A.S.C. 92 | 14·9 | 16·2 | +0·3 | 98 15 15·8 | 0·0 | ...... | ...... | ...... | + 1 56·1 | ............ | − 8 11 43·7 |
| | 41 Andromedæ | 41·8 | 44·1 | +0·1 | 46 58 43·1 | ...... | ...... | ...... | ...... | + 0 12·9 | ............ | +43 6 32·2 |
| | 45 Andromedæ | 37·0 | 39·1 | +0·1 | 53 11 38·1 | ...... | ...... | ...... | ...... | + 0 19·6 | ............ | +36 53 30·5 |
| | (*i*) α Ursæ Minoris | 21·7 | 25·1 | −0·5 | 1 37 22·8 | 0·0 | ...... | ...... | ...... | − 0 36·1 | ............ | +88 28 41·5 |
| | (*k*) Nadir | 0·5<br>5·6 | 3·9<br>9·6 | −0·1 | 214 8 4·6 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |
| | ...................... | 6·0<br>0·6 | 10·0<br>5·0 | −0·1 | 214 8 5·4 | ...... | ...... | ...... | ...... | ......... | ............ | ............... |

(*a*) At 1$^h$ 5$^m$ 40$^s$.
(*b*) Wire V.
(*c*) At 18$^h$ 23$^m$ 30$^s$.
(*d*) At 0$^h$ 35$^m$.

(*e*) At 1$^h$ 5$^m$ 40$^s$.
(*f*) At 1$^h$ 36$^m$ 30$^s$.
(*g*) At 0$^h$ 33$^m$ 30$^s$.

(*h*) Wire IV.
(*i*) At 1$^h$ 4$^m$ 24$^s$.
(*k*) At 1$^h$ 15$^m$.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ′ | | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Nov. 25 | (*a*) Sun North Limb | 33·9 | 34·0 | +0·5 | 110 30 34·4 | − 1·2 | 42·2 | 28·50 | 41·5 | + 3 48·0 | 304 8 4·3 | −20 28 53·7 |
| | (*b*) α Ursæ Minoris | 10·9 | 15·1 | −0·5 | 1 37 12·4 | +10·1 | 41·0 | 28·55 | 41·8 | − 0 36·0 | ………… | +88 28 41·0 |
| Nov. 29 | Sun South Limb | 34·2 | 35·4 | +0·5 | 111 46 35·2 | …… | 44·3 | 28·92 | 43·9 | + 4 13·7 | ………… | −21 45 21·4 |
| | (*c*) Jupiter Centre | 13·5 | 15·2 | +0·5 | 112 5 14·8 | − 0·8 | 42·7 | 28·95 | 43·4 | + 4 21·0 | ………… | −22 4 7·5 |
| | (*d*) α Ursæ Minoris | 26·0 | 30·4 | −0·5 | 1 36 27·6 | +55·4 | 42·8 | 29·07 | 43·2 | − 0 36·6 | ………… | +88 28 41·1 |
| | 2 Persei | 13·0 | 15·8 | 0·0 | 40 4 14·4 | …… | …… | …… | …… | + 0 6·0 | ………… | +50 1 7·1 |
| | Piazzi I. 200 | 34·8 | 37·6 | +0·1 | 53 43 36·4 | …… | …… | …… | …… | + 0 20·4 | ………… | +36 21 30·7 |
| | (*e*) Piazzi I. 203 | 32·1 | 34·8 | +0·1 | 53 34 33·6 | + 0·1 | …… | …… | …… | + 0 20·2 | ………… | +36 30 33·6 |
| | 52 Cassiopeæ | 54·5 | 58·7 | −0·2 | 25 56 56·3 | …… | …… | …… | …… | − 0 8·2 | ………… | +64 8 39·4 |
| | (*f*) 5 Persei | 9·7 | 14·0 | −0·1 | 33 11 11·7 | 0·0 | …… | …… | …… | − 0 0·9 | ………… | +56 54 16·7 |
| | 60 Andromedæ | 28·4 | 31·6 | +0·1 | 46 35 30·1 | …… | …… | …… | …… | + 0 12·7 | ………… | +43 29 44·7 |
| | 7 Trianguli | 13·3 | 17·0 | +0·1 | 57 27 15·1 | …… | …… | …… | …… | + 0 24·7 | ………… | +32 37 47·7 |
| | Piazzi II. 41 | 35·0 | 38·3 | 0·0 | 41 51 36·6 | …… | …… | …… | …… | + 0 7·8 | ………… | +48 13 43·1 |
| | 64 Andromedæ | 38·6 | 40·5 | 0·0 | 40 47 39·7 | …… | …… | …… | …… | + 0 6·7 | ………… | +49 17 41·1 |
| | Piazzi II. 97 | 53·7 | 57·7 | −0·3 | 17 57 55·5 | …… | …… | …… | …… | − 0 16·6 | ………… | +72 7 48·6 |
| | 81 Ceti | 26·0 | 26·5 | +0·3 | 94 8 26·6 | …… | …… | …… | …… | + 1 39·2 | ………… | − 4 4 38·3 |
| | θ Persei | 27·9 | 31·0 | 0·0 | 41 31 29·4 | …… | 42·0 | 29·08 | 43·4 | + 0 7·4 | ………… | +48 33 50·7 |
| | (*g*) 39 Arietis | 15·7 | 17·7 | +0·1 | 61 29 16·8 | + 0·4 | …… | …… | …… | + 0 29·7 | ………… | +28 35 40·6 |
| | 17 Persei | 15·9 | 18·5 | +0·1 | 55 40 17·3 | …… | …… | …… | …… | + 0 22·7 | ………… | +34 24 47·5 |
| | Piazzi II. 191 | 16·0 | 20·1 | −0·4 | 11 18 17·7 | …… | …… | …… | …… | − 0 24·2 | ………… | +78 47 34·0 |
| | 21 Persei | 54·9 | 57·4 | +0·1 | 58 46 56·1 | …… | …… | …… | …… | + 0 26·4 | ………… | +31 18 5·0 |
| | A.S.C. 331 | 12·1 | 15·0 | −0·1 | 34 0 13·4 | …… | …… | …… | …… | − 0 0·2 | ………… | +56 5 14·3 |
| | ϱ³ Eridani | 31·7 | 32·2 | +0·3 | 98 16 32·2 | …… | …… | …… | …… | + 1 58·0 | ………… | − 8 13 2·7 |
| | Piazzi II. 255 | 43·0 | 46·0 | −0·4 | 12 56 44·0 | …… | …… | …… | …… | − 0 22·3 | ………… | +77 9 5·8 |
| | Groomb. 2213 S.P. | 23·9 | 27·8 | −0·6 | 354 39 25·3 | …… | …… | …… | …… | − 0 47·3 | ………… | +84 33 10·5 |
| | χ¹ Ceti | 35·7 | 38·0 | +0·2 | 87 16 37·0 | …… | …… | …… | …… | + 1 16·5 | ………… | + 2 47 34·0 |
| | χ² Ceti | 40·4 | 42·3 | +0·2 | 86 57 41·7 | …… | …… | …… | …… | + 1 15·6 | ………… | + 3 6 30·2 |
| | A.S.C. 373 | 38·2 | 40·1 | −0·1 | 31 45 39·0 | …… | …… | …… | …… | − 0 2·4 | ………… | +58 19 50·9 |
| | σ Persei | 15·3 | 19·3 | 0·0 | 42 38 17·4 | …… | …… | …… | …… | + 0 8·6 | ………… | +47 27 1·5 |
| | (*g*) 36 Persei | 55·0 | 58·0 | 0·0 | 44 33 56·6 | + 0·7 | …… | …… | …… | + 0 10·6 | ………… | +45 31 19·6 |
| | Piazzi III. 94 | 20·6 | 25·0 | −0·3 | 27 23 22·6 | …… | …… | …… | …… | − 0 6·8 | ………… | +62 42 11·7 |
| | 12 Tauri | 30·2 | 32·5 | +0·2 | 87 31 31·5 | …… | …… | …… | …… | + 1 17·2 | ………… | + 2 32 38·8 |
| | δ Eridani | 7·0 | 10·1 | +0·4 | 100 21 8·9 | …… | …… | …… | …… | + 2 9·6 | ………… | −10 17 51·0 |
| | π Eridani | 50·0 | 52·0 | +0·4 | 102 38 51·5 | …… | 42·1 | 29·09 | 43·2 | + 2 24·9 | ………… | −12 35 48·9 |
| Nov. 30 | Sun North Limb | 12·5 | 14·9 | +0·5 | 111 24 14·2 | …… | 43·5 | 29·32 | 43·7 | + 4 10·0 | ………… | −21 22 56·7 |
| | Venus Centre | 24·8 | 25·5 | +0·5 | 115 51 25·6 | …… | …… | …… | …… | + 6 17·5 | ………… | −25 52 15·6 |
| | δ Ursæ Minoris | 15·0 | 20·8 | −0·5 | 3 30 17·4 | …… | 43·5 | 29·35 | 44·2 | − 0 34·2 | ………… | +86 35 44·3 |
| | (*h*) Jupiter Centre | 23·1 | 23·0 | +0·5 | 112 3 23·6 | …… | 43·0 | 29·39 | 43·9 | + 4 24·1 | ………… | −22 2 20·2 |
| | A.S.C. 92 | 12·8 | 15·2 | +0·3 | 98 15 14·3 | …… | …… | …… | …… | + 1 59·5 | ………… | − 8 11 46·3 |
| | (*i*) α Ursæ Minoris | 12·8 | 17·9 | −0·5 | 1 37 14·7 | + 7·5 | 41·6 | 29·47 | 42·6 | − 0 37·1 | ………… | +88 28 42·4 |
| | (*g*) 41 Andromedæ | 40·0 | 42·8 | +0·1 | 46 58 41·6 | …… | …… | …… | …… | + 0 13·3 | ………… | +43 6 32·6 |
| | 82 Piscium | 24·0 | 27·1 | +0·1 | 59 29 25·7 | …… | …… | …… | …… | + 0 27·6 | ………… | +30 35 34·2 |
| | (*k*) α Ursæ Minoris | 19·9 | 24·0 | −0·5 | 1 37 21·3 | + 0·1 | …… | …… | …… | − 0 37·2 | ………… | +88 28 43·3 |
| | (*f*) Piazzi I. 113 | 53·0 | 56·7 | 0·0 | 42 9 54·9 | 0·0 | …… | …… | …… | + 0 8·2 | ………… | +47 55 24·4 |
| | 42 Cassiopeæ | 46·7 | 50·2 | −0·3 | 20 15 48·1 | …… | …… | …… | …… | − 0 14·4 | ………… | +69 49 53·8 |
| | (*f*) 44 Cassiopeæ | 48·1 | 50·8 | −0·1 | 30 19 49·4 | 0·0 | …… | …… | …… | − 0 3·9 | ………… | +59 45 42·0 |
| | (*l*) α Ursæ Minoris | 25·9 | 30·1 | −0·5 | 1 36 27·4 | +56·5 | 39·8 | 29·47 | 41·5 | − 0 37·3 | ………… | +88 28 40·9 |
| | 2 Persei | 12·9 | 15·0 | 0·0 | 40 4 14·0 | …… | …… | …… | …… | + 0 6·1 | ………… | +50 1 7·4 |
| | Piazzi I. 200 | 35·0 | 37·2 | +0·1 | 53 43 36·3 | …… | …… | …… | …… | + 0 20·8 | ………… | +36 21 30·4 |
| | 52 Cassiopeæ | 55·2 | 57·9 | −0·2 | 25 56 56·2 | …… | …… | …… | …… | − 0 8·4 | ………… | +64 8 39·7 |
| | 5 Persei | 8·5 | 12·1 | −0·1 | 33 11 10·1 | …… | …… | …… | …… | − 0 1·0 | ………… | +56 54 18·4 |
| | 60 Andromedæ | 28·5 | 31·0 | +0·1 | 46 35 29·8 | …… | …… | …… | …… | + 0 12·9 | ………… | +43 29 44·8 |
| | δ Trianguli | 41·0 | 42·8 | +0·1 | 56 34 42·0 | …… | …… | …… | …… | + 0 24·2 | ………… | +33 30 21·3 |
| | ω Persei | 19·3 | 22·5 | +0·1 | 51 4 21·0 | …… | 39·7 | 29·46 | 41·7 | + 0 17·8 | ………… | +39 0 48·7 |

(*a*) At 16$^h$ 4$^m$ 47$^s$.
(*b*) At 0$^h$ 50$^m$ 16$^s$.
(*c*) At 19$^h$ 37$^m$ 20$^s$.

(*d*) At 1$^h$ 36$^m$ 40$^s$.
(*e*) Wire IV.
(*f*) Wire III.

(*g*) Wire V.
(*h*) Faint.
(*i*) At 0$^h$ 52$^m$ 20$^s$.

(*k*) At 1$^h$ 5$^m$ 15$^s$.
(*l*) At 1$^h$ 37$^m$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Nov. 30 | 31 Persei | 12·0 | 14·2 | 0·0 | 40 34 13·1 | ...... | ...... | ...... | ...... | + 0 6·6 | 304 8 4·3 | +49 31 7·8 |
|  | ϰ¹ Ceti | 35·2 | 37·1 | +0·2 | 87 16 36·3 | ...... | ...... | ...... | ...... | + 1 17·9 | ............ | + 2 47 33·3 |
|  | ϰ² Ceti | 38·2 | 40·0 | +0·2 | 86 57 39·4 | ...... | ...... | ...... | ...... | + 1 17·0 | ............ | + 3 6 31·1 |
| Dec. 2 | (*a*) A.S.C. 92 | 13·0 | 15·8 | +0·3 | 98 15 14·7 | + 0·1 | 51·5 | 29·52 | 50·7 | + 1 57·3 | ............ | − 8 11 44·6 |
| Dec. 3 | Sun North Limb | 31·7 | 34·2 | +0·5 | 111 51 33·4 | ...... | 49·6 | 29·77 | 49·4 | + 4 20·0 | ............ | −21 50 25·9 |
| Dec. 4 | (*b*) Mercury Centre | 13·1 | 14·0 | +0·5 | 109 41 14·0 | ...... | 49·5 | 29·79 | 49·1 | + 3 41·0 | ............ | −19 39 27·5 |
| Dec. 5 | Sun South Limb | 58·2 | 60·0 | +0·5 | 112 39 59·6 | ...... | 50·3 | 29·79 | 49·8 | + 4 37·6 | ............ | −22 39 9·7 |
| Dec. 7 | Sun North Limb | 59·8 | 61·8 | +0·5 | 112 22 1·2 | ...... | 47·1 | 29·87 | 47·0 | + 4 33·2 | ............ | −22 21 6·9 |
|  | Venus Centre | 7·5 | 10·3 | +0·5 | 114 30 9·4 | ...... | 46·9 | 29·86 | 47·0 | + 5 32·1 | ............ | −24 30 14·0 |
| Dec. 8 | (*c*) Moon South Limb | 7·6 | ...... | +0·3 | 97 40 9·3 | + 0·4 | ...... | ...... | ...... | + 1 57·3 | ............ | − 7 36 39·5 |
|  | (*d*) ............ | ...... | 2·9 | +0·3 | 97 40 1·8 | + 6·6 | ...... | ...... | ...... | + 1 57·3 | ............ | − 7 36 38·2 |
|  | (*e*) ............ | 54·0 | 56·8 | +0·3 | 97 39 55·7 | +12·7 | 48·5 | 30·11 | 48·8 | + 1 57·3 | ............ | − 7 36 38·2 |
|  | (*f*) υ¹ Cassiopeæ | 49·6 | 51·8 | −0·1 | 31 57 50·7 | + 0·5 | 48·1 | 30·12 | 48·1 | − 0 2·2 | ............ | +58 7 38·5 |
|  | (*g*) α Ursæ Minoris | 11·8 | 17·0 | −0·5 | 1 37 13·8 | + 6·0 | ...... | ...... | ...... | − 0 37·4 | ............ | +88 28 45·1 |
|  | ............ | 17·8 | 22·2 | −0·5 | 1 37 19·4 | ...... | ...... | ...... | ...... | − 0 37·4 | ............ | +88 28 45·5 |
| Dec. 10 | (*h*) 63 Andromedæ | 23·6 | 25·6 | 0·0 | 40 39 24·6 | 0·0 | 43·3 | 29·82 | 45·5 | + 0 6·7 | ............ | +49 25 56·2 |
|  | 65 Andromedæ | 12·0 | 14·4 | 0·0 | 40 31 13·1 | ...... | ...... | ...... | ...... | + 0 6·6 | ............ | +49 34 7·8 |
|  | (*i*) 14 Persei | 26·0 | 29·0 | +0·1 | 46 27 27·5 | + 0·2 | ...... | ...... | ...... | + 0 12·8 | ............ | +43 37 47·0 |
|  | Piazzi II. 191 | 13·9 | 18·1 | −0·4 | 11 18 15·7 | ...... | ...... | ...... | ...... | − 0 24·7 | ............ | +78 47 36·5 |
|  | (*h*) 21 Persei | 55·0 | 57·4 | +0·1 | 58 46 56·2 | 0·0 | ...... | ...... | ...... | + 0 27·0 | ............ | +31 18 4·3 |
|  | A.S.C. 331 | 9·5 | 12·3 | −0·1 | 34 0 10·8 | ...... | ...... | ...... | ...... | − 0 0·2 | ............ | +56 5 16·9 |
|  | ϱ³ Eridani | 25·6 | 26·4 | +0·3 | 98 16 26·2 | ...... | ...... | ...... | ...... | + 2 0·7 | ............ | − 8 12 59·4 |
|  | ω Persei | 17·3 | 21·0 | +0·1 | 51 4 19·3 | ...... | 42·8 | 29·81 | 45·1 | + 0 17·9 | ............ | +39 0 50·3 |
|  | Piazzi III. 23 | 13·3 | 16·0 | +0·1 | 56 26 14·7 | ...... | ...... | ...... | ...... | + 0 24·1 | ............ | +33 38 48·7 |
|  | ϰ² Ceti | 38·4 | 40·2 | +0·2 | 86 57 39·6 | ...... | ...... | ...... | ...... | + 1 17·4 | ............ | + 3 6 30·5 |
|  | Piazzi III. 57 | 2·2 | 5·0 | 0·0 | 35 11 3·5 | ...... | ...... | ...... | ...... | + 0 1·1 | ............ | +54 54 22·9 |
|  | 36 Persei | 51·9 | 55·0 | 0·0 | 44 33 53·5 | ...... | ...... | ...... | ...... | + 0 10·8 | ............ | +45 31 23·2 |
|  | Piazzi III. 94 | 17·2 | 21·6 | −0·2 | 27 23 19·3 | ...... | ...... | ...... | ...... | − 0 7·0 | ............ | +62 42 15·2 |
|  | Piazzi III. 105 | 49·2 | 53·0 | −0·2 | 27 14 50·9 | ...... | ...... | ...... | ...... | − 0 7·1 | ............ | +62 50 43·7 |
|  | 22 Tauri (Pleiad.) | 41·3 | 42·5 | +0·1 | 66 2 42·1 | ...... | ...... | ...... | ...... | + 0 36·6 | ............ | +24 2 8·8 |
|  | 42 Persei | 32·3 | 34·5 | +0·1 | 57 28 33·6 | ...... | ...... | ...... | ...... | + 0 25·4 | ............ | +32 36 28·5 |
|  | Piazzi III. 160 | 34·8 | 37·8 | −0·5 | 9 50 35·8 | ...... | ...... | ...... | ...... | − 0 26·5 | ............ | +80 15 18·2 |
| Dec. 11 | (*k*) Moon South Limb | 59·0 | ...... | +0·1 | 82 18 0·5 | + 7·7 | ...... | ...... | ...... | + 1 5·7 | ............ | + 7 46 13·6 |
|  | (*l*) ............ | 52·0 | 54·5 | +0·1 | 82 17 53·5 | +15·1 | 36·9 | 29·49 | 43·2 | + 1 5·7 | ............ | + 7 46 13·2 |
| Dec. 12 | δ Piscium | 24·4 | 26·7 | +0·2 | 83 20 25·7 | ...... | 53·4 | 29·27 | 48·3 | + 1 5·3 | ............ | + 6 43 56·5 |
|  | υ¹ Cassiopeæ | 48·6 | 51·1 | −0·1 | 31 57 49·9 | ...... | ...... | ...... | ...... | − 0 2·1 | ............ | +58 7 39·7 |
|  | υ² Cassiopeæ | 12·5 | 16·8 | −0·1 | 31 45 14·5 | ...... | ...... | ...... | ...... | − 0 2·4 | ............ | +58 20 15·4 |
|  | ε Piscium | 34·6 | 37·0 | +0·2 | 83 1 35·9 | ...... | ...... | ...... | ...... | + 1 4·7 | ............ | + 7 2 46·9 |
|  | 78 Piscium | 19·9 | 22·7 | +0·1 | 58 54 21·4 | ...... | ...... | ...... | ...... | + 0 26·1 | ............ | +31 10 40·0 |
|  | 82 Piscium | 24·8 | 28·6 | +0·1 | 59 29 26·8 | ...... | ...... | ...... | ...... | + 0 26·8 | ............ | +30 35 33·9 |
|  | (*m*) α Ursæ Minoris | 15·3 | 21·0 | −0·5 | 1 37 17·5 | + 0·5 | ...... | ...... | ...... | − 0 36·0 | ............ | +88 28 45·5 |
|  | (*n*) Moon South Limb | 23·9 | ...... | +0·1 | 77 31 26·0 | − 8·3 | ...... | ...... | ...... | + 0 53·3 | ............ | +12 33 16·5 |
|  | (*o*) ............ | ...... | 18·0 | +0·1 | 77 31 15·9 | ...... | ...... | ...... | ...... | + 0 53·3 | ............ | +12 33 18·3 |
|  | (*p*) ............ | 8·8 | 13·0 | +0·1 | 77 31 10·9 | + 6·7 | ...... | ...... | ...... | + 0 53·3 | ............ | +12 33 16·6 |
|  | (*i*) η Piscium | 17·3 | 22·0 | +0·1 | 75 32 19·6 | + 0·1 | ...... | ...... | ...... | + 0 49·7 | ............ | +14 32 18·1 |
|  | (*h*) 42 Cassiopeæ | 42·4 | 47·7 | −0·3 | 20 15 44·7 | 0·0 | 53·6 | 29·27 | 52·3 | − 0 13·9 | ............ | +69 49 56·7 |
|  | (*q*) β Arietis | 14·0 | 17·8 | +0·1 | 70 2 15·9 | + 0·4 | ...... | ...... | ...... | + 0 40·9 | ............ | +20 2 30·3 |

(*a*) Wire V.
(*b*) Faint.
(*c*) At $22^h\ 15^m\ 8^s$.
(*d*) At $22^h\ 15^m\ 38^s$

(*e*) At $22^h\ 16^m\ 8^s$.
(*f*) At $0^h\ 47^m\ 10^s$.
(*g*) At $0^h\ 53^m\ 30^s$.
(*h*) Wire III.

(*i*) Wire IV.
(*k*) At $0^h\ 29^m\ 4^s$.
(*l*) At $0^h\ 29^m\ 38^s$.
(*m*) At $1^h\ 5^m\ 34^s$ Transit Clock.

(*n*) At $1^h\ 12^m\ 34^s$ Transit Clock.
(*o*) At $1^h\ 13^m\ 9^s$ Transit Clock.
(*p*) At $1^h\ 13^m\ 54^s$ Transit Clock.
(*q*) $45^s$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Dec. 12 | 52 Cassiopeæ | 51·4 | 55·8 | −0·2 | 25 56 53·3 | ...... | ...... | ...... | ...... | − 0 8·1 | 304 8 4·3 | +64 8 42·3 |
| | ω Persei | 18·1 | 21·3 | +0·1 | 51 4 19·8 | ...... | 53·6 | 29·30 | 51·8 | + 0 17·2 | ............ | +39 0 50·5 |
| | Piazzi III. 7 | 4·0 | 7·0 | −0·2 | 25 1 5·2 | ...... | ...... | ...... | ...... | − 0 9·1 | ............ | +65 4 31·4 |
| | Piazzi III. 23 | 12·1 | 15·9 | +0·1 | 56 26 14·0 | ...... | ...... | ...... | ...... | + 0 23·2 | ............ | +33 38 50·3 |
| | 32 Persei | 32·4 | 35·8 | +0·1 | 47 19 34·2 | ...... | ...... | ...... | ...... | + 0 13·3 | ............ | +42 45 40·0 |
| | Piazzi III. 57 | 3·1 | 6·0 | 0·0 | 35 11 4·5 | ...... | ...... | ...... | ...... | + 0 1·0 | ............ | +54 54 22·0 |
| | 36 Persei | 52·5 | 56·1 | 0·0 | 44 33 54·4 | ...... | ...... | ...... | ...... | + 0 10·4 | ............ | +45 31 22·7 |
| | (*a*) Piazzi III. 94 | 14·9 | 19·5 | −0·2 | 27 23 17·1 | + 0·3 | ...... | ...... | ...... | − 0 6·7 | ............ | +62 42 16·8 |
| Dec. 13 | (*b*) 42 Cassiopeæ | 43·0 | 48·2 | −0·3 | 20 15 45·3 | + 0·4 | ...... | ...... | ...... | − 0 14·0 | ............ | +69 49 55·8 |
| | (*c*) υ Andromedæ | 27·0 | 29·8 | +0·1 | 48 15 28·5 | + 1·3 | 55·0 | 29·38 | 53·0 | + 0 14·2 | ............ | +41 49 43·5 |
| | (*d*) β Arietis | 15·2 | 18·6 | +0·1 | 70 2 16·9 | + 0·2 | ...... | ...... | ...... | + 0 40·9 | ............ | +20 2 29·5 |
| | 53 Cassiopeæ | 30·3 | 34·9 | −0·2 | 26 27 32·5 | ...... | ...... | ...... | ...... | − 0 7·5 | ............ | +63 38 2·5 |
| | (*e*) Moon South Limb | 25·9 | ...... | +0·1 | 73 13 28·1 | − 9·5 | ...... | ...... | ...... | + 0 45·9 | ............ | +16 51 23·0 |
| | (*f*) ...................... | ...... | 21·8 | +0·1 | 73 13 20·0 | − 1·3 | ...... | ...... | ...... | + 0 45·9 | ............ | +16 51 22·9 |
| | (*g*) ...................... | 11·5 | 15·5 | +0·1 | 73 13 13·7 | + 4·7 | ...... | ...... | ...... | + 0 45·9 | ............ | +16 51 23·2 |
| | (*b*) δ Trianguli | 36·5 | 40·2 | +0·1 | 56 34 38·5 | + 0·1 | ...... | ...... | ...... | + 0 23·3 | ............ | +33 30 25·6 |
| | 65 Andromedæ | 9·9 | 13·4 | 0·0 | 40 31 11·6 | ...... | ...... | ...... | ...... | + 0 6·3 | ............ | +49 34 9·6 |
| | ψ Arietis | 5·0 | 7·7 | +0·1 | 73 4 6·5 | ...... | ...... | ...... | ...... | + 0 45·6 | ............ | +17 0 35·4 |
| | 81 Ceti | 24·9 | 26·6 | +0·3 | 94 8 26·1 | ...... | 55·1 | 29·35 | 53·6 | + 1 37·4 | ............ | − 4 4 36·0 |
| | (*b*) 35 Arietis | 33·0 | 34·4 | +0·1 | 63 2 33·9 | + 0·1 | ...... | ...... | ...... | + 0 31·2 | ............ | +27 2 22·3 |
| | π Arietis | 59·4 | 64·3 | +0·1 | 73 16 1·9 | ...... | ...... | ...... | ...... | + 0 45·9 | ............ | +16 48 39·7 |
| | π Persei | 5·2 | 9·3 | +0·1 | 51 3 7·5 | ...... | ...... | ...... | ...... | + 0 17·2 | ............ | +39 2 2·8 |
| | (*a*) A.S.C. 331 | 6·2 | 11·3 | −0·1 | 34 0 8·6 | + 0·3 | ...... | ...... | ...... | − 0 0·2 | ............ | +56 5 18·8 |
| | Piazzi III. 7 | 2·9 | 6·4 | −0·2 | 25 1 4·4 | ...... | ...... | ...... | ...... | − 0 9·0 | ............ | +65 4 32·1 |
| | Piazzi III. 23 | 10·3 | 14·7 | +0·1 | 56 26 12·5 | ...... | ...... | ...... | ...... | + 0 23·1 | ............ | +33 38 51·9 |
| | Piazzi III. 27 | 12·5 | 16·5 | −0·2 | 26 4 14·3 | ...... | ...... | ...... | ...... | − 0 8·0 | ............ | +64 1 21·2 |
| | (*b*) Piazzi III. 57 | 0·5 | 4·5 | 0·0 | 35 11 2·4 | + 0·3 | 55·6 | 29·33 | 53·8 | + 0 1·0 | ............ | +54 54 23·8 |
| | 12 Tauri | 30·9 | 33·9 | +0·2 | 87 31 32·5 | ...... | ...... | ...... | ...... | + 1 15·7 | ............ | + 2 32 39·3 |
| | (*b*) 29 Tauri | 54·9 | 59·2 | +0·2 | 84 30 57·2 | 0·0 | ...... | ...... | ...... | + 1 8·0 | ............ | + 5 33 22·3 |
| | (*h*) A.S.C. 416 | 34·6 | 37·9 | +0·1 | 67 8 36·4 | + 0·3 | ...... | ...... | ...... | + 0 36·6 | ............ | +22 56 14·2 |
| | ξ Persei | 50·9 | 54·9 | +0·1 | 54 44 53·0 | ...... | ...... | ...... | ...... | + 0 21·2 | ............ | +35 20 13·3 |
| | Piazzi III. 208 | 33·0 | 36·9 | −0·1 | 31 22 35·0 | ...... | ...... | ...... | ...... | − 0 2·7 | ............ | +58 42 55·2 |
| | λ Persei | 0·1 | 5·0 | 0·0 | 40 10 2·5 | ...... | ...... | ...... | ...... | + 0 6·0 | ............ | +49 55 19·0 |
| | 50 Persei | 32·8 | 36·0 | +0·1 | 52 27 34·6 | ...... | ...... | ...... | ...... | + 0 18·7 | ............ | +37 37 34·2 |
| | Piazzi IV. 7 | 33·5 | 37·0 | 0·0 | 36 52 35·4 | ...... | ...... | ...... | ...... | + 0 2·6 | ............ | +53 12 49·5 |
| | A.S.C. 467 | 59·7 | 64·3 | 0·0 | 40 11 1·9 | ...... | ...... | ...... | ...... | + 0 6·0 | ............ | +49 54 19·6 |
| | 53 Persei | 3·0 | 7·2 | 0·0 | 43 58 5·2 | ...... | ...... | ...... | ...... | + 0 9·8 | ............ | +46 7 12·5 |
| | 55 Persei | 13·0 | 17·0 | +0·1 | 56 19 15·1 | ...... | ...... | ...... | ...... | + 0 23·1 | ............ | +33 45 49·3 |
| | 58 Persei | 53·2 | 57·0 | +0·1 | 49 8 55·2 | ...... | ...... | ...... | ...... | + 0 15·1 | ............ | +40 56 17·2 |
| | 2 Camelopardi | 50·9 | 55·3 | 0·0 | 36 55 53·0 | ...... | 55·1 | 29·34 | 53·7 | + 0 2·8 | ............ | +53 9 31·7 |
| Dec. 14 | (*i*) Nadir | 58·5<br>63·7 | 64·2<br>69·0 | −0·1 | 214 8 3·6 | ...... | ...... | ...... | ...... | ......... | 3·6 | .............. |
| | ...................... | 63·8<br>58·3 | 69·0<br>63·7 | −0·1 | 214 8 3·7 | ...... | ...... | ...... | ...... | ......... | ............ | .............. |
| Dec. 15 | 59 Andromedæ, pre. | 7·8 | 11·2 | +0·1 | 51 47 9·5 | ...... | 52·7 | 29·48 | 52·3 | + 0 18·1 | 3·9 | +38 17 59·5 |
| | δ Trianguli | 37·4 | 41·1 | +0·1 | 56 34 39·4 | ...... | ...... | ...... | ...... | + 0 23·5 | ............ | +33 30 24·2 |
| Dec. 16 | 35 Arietis | 34·1 | 34·9 | +0·1 | 63 2 34·7 | ...... | 51·1 | 29·26 | 50·8 | + 0 31·3 | ............ | +27 2 21·1 |
| | $\gamma^1$ Eridani | 22·6 | 23·8 | +0·4 | 104 0 23·6 | ...... | 50·8 | 29·23 | 51·0 | + 2 33·4 | ............ | −13 57 29·9 |
| | (*b*) λ Persei | 0·5 | 4·8 | 0·0 | 40 10 2·6 | + 0·2 | ...... | ...... | ...... | + 0 6·0 | ............ | +49 55 18·3 |
| | 47 Tauri | 40·0 | 43·6 | +0·1 | 81 12 42·0 | ...... | ...... | ...... | ...... | + 1 0·9 | ............ | + 8 51 44·2 |
| | μ Tauri | 39·1 | 41·4 | +0·1 | 81 34 40·4 | ...... | ...... | ...... | ...... | + 1 1·7 | ............ | + 8 29 45·0 |
| | 53 Persei | 3·9 | 8·2 | 0·0 | 43 58 6·2 | ...... | ...... | ...... | ...... | + 0 9·8 | ............ | +46 7 11·1 |

(*a*) Wire II.
(*b*) Wire IV.
(*c*) 72$^s$ after transit.

(*d*) 24$^s$ after transit.
(*e*) At 2$^h$ 1$^m$ 36$^s$ Transit Clock.
(*f*) At 2$^h$ 2$^m$ 28$^s$ Transit Clock.

(*g*) At 2$^h$ 3$^m$ 4$^s$ Transit Clock.
(*h*) Wire V.
(*i*) At 2$^h$ 35$^m$.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ " | ° ′ " |
| Dec. 16 | (a) 55 Persei...... | 13·2 | 17·0 | +0·1 | 56 19 15·2 | 0·0 | ...... | ...... | ...... | + 0 23·1 | 304 8 3·9 | +33 45 48·8 |
|  | $\upsilon^1$ Tauri...... | 33·5 | 36·6 | +0·1 | 67 37 35·3 | ...... | ...... | ...... | ...... | + 0 37·5 | ............ | +22 27 14·3 |
|  | 51 Eridani...... | 20·5 | 24·1 | +0·3 | 92 51 22·5 | ...... | ...... | ...... | ...... | + 1 33·0 | ............ | − 2 47 28·4 |
|  | (b) τ Tauri...... | 42·6 | 44·4 | +0·1 | 67 25 43·6 | + 0·1 | ...... | ...... | ...... | + 0 37·2 | ............ | +22 39 6·2 |
|  | Piazzi IV. 170...... | 45·1 | 48·9 | −0·2 | 26 51 46·7 | ...... | ...... | ...... | ...... | − 0 7·2 | ............ | +63 13 47·6 |
|  | $\pi^1$ Orionis...... | 47·7 | 50·2 | +0·1 | 81 26 48·9 | ...... | ...... | ...... | ...... | + 1 1·4 | ............ | + 8 37 36·8 |
|  | 7 Camelopardi...... | 42·0 | 45·0 | 0·0 | 36 35 43·5 | ...... | ...... | ...... | ...... | + 0 2·4 | ............ | +53 29 41·2 |
|  | ω Aurigæ...... | 13·5 | 17·7 | +0·1 | 52 26 15·6 | ...... | ...... | ...... | ...... | + 0 18·8 | ............ | +37 38 52·7 |
|  | (c) Moon North Limb... | 55·0 | 59·1 | +0·1 | 65 21 57·0 | + 1·2 | 50·0 | 29·18 | 50·6 | + 0 34·4 | ............ | +24 42 54·5 |
| Dec 17 | δ Ursæ Minoris...... | 19·2 | 24·3 | −0·5 | 3 30 21·1 | ...... | 43·0 | 29·42 | 44·0 | − 0 34·3 | ............ | +86 35 40·2 |
|  | (b) Jupiter Centre...... | 4·0 | 4·0 | +0·5 | 111 27 4·4 | − 0·1 | 43·0 | 29·45 | 44·0 | + 4 12·4 | ............ | −21 25 49·6 |
|  | (b) Piazzi III. 7...... | 2·0 | 4·2 | −0·2 | 25 1 2·8 | + 0·4 | ...... | ...... | ...... | − 0 9·3 | ............ | +65 4 33·2 |
|  | Piazzi III. 28...... | 58·9 | 62·0 | 0·0 | 41 35 0·4 | ...... | 44·0 | 29·54 | 45·2 | + 0 7·6 | ............ | +48 30 19·1 |
|  | 34 Persei...... | 30·3 | 32·3 | 0·0 | 41 7 31·4 | ...... | ...... | ...... | ...... | + 0 7·1 | ............ | +48 57 48·6 |
|  | 22 Eridani...... | 52·1 | 54·9 | +0·3 | 95 46 53·7 | ...... | ...... | ...... | ...... | + 1 47·4 | ............ | − 5 43 14·0 |
|  | (d) δ Eridani...... | 7·5 | 9·0 | +0·4 | 100 21 8·6 | − 0·1 | ...... | ...... | ...... | + 2 11·3 | ............ | −10 17 52·7 |
|  | (b) A.S.C. 407...... | 19·0 | 20·5 | +0·4 | 101 2 20·0 | 0·0 | ...... | ...... | ...... | + 2 15·6 | ............ | −10 59 8·5 |
|  | 30 Eridani...... | 36·2 | 38·8 | +0·3 | 95 53 37·9 | ...... | ...... | ...... | ...... | + 1 48·1 | ............ | − 5 49 58·9 |
|  | (b) 32 Eridani...... | 5·5 | 8·1 | +0·3 | 93 29 7·1 | 0·0 | ...... | ...... | ...... | + 1 38·0 | ............ | − 3 25 18·0 |
|  | $\gamma^1$ Eridani...... | 17·9 | 19·0 | +0·4 | 104 0 18·8 | ...... | ...... | ...... | ...... | + 2 37·7 | ............ | −13 57 29·4 |
|  | λ Persei...... | 2·2 | 4·2 | 0·0 | 40 10 3·2 | ...... | ...... | ...... | ...... | + 0 6·2 | ............ | +49 55 17·7 |
|  | 50 Persei...... | 34·6 | 36·9 | +0·1 | 52 27 36·0 | ...... | ...... | ...... | ...... | + 0 19·3 | ............ | +37 37 31·8 |
|  | ω Aurigæ...... | 14·6 | 17·9 | +0·1 | 52 26 16·3 | ...... | ...... | ...... | ...... | + 0 19·3 | ............ | +37 38 51·5 |
|  | ζ Aurigæ...... | 41·0 | 44·2 | +0·1 | 49 14 42·7 | ...... | 41·9 | 29·57 | 44·5 | + 0 15·8 | ............ | +40 50 28·6 |
|  | λ Aurigæ...... | 54·8 | 57·5 | +0·1 | 50 7 56·4 | ...... | ...... | ...... | ...... | + 0 16·8 | ............ | +39 57 13·9 |
|  | 23 Orionis...... | 49·1 | 50·0 | +0·2 | 86 40 49·7 | ...... | ...... | ...... | ...... | + 1 16·1 | ............ | + 3 23 21·3 |
|  | (e) β Tauri...... | 45·3 | 47·0 | +0·1 | 61 36 46·2 | 0·0 | ...... | ...... | ...... | + 0 30·4 | ............ | +28 28 10·5 |
|  | $\psi^2$ Orionis...... | 48·8 | 50·2 | +0·2 | 87 6 49·6 | ...... | ...... | ...... | ...... | + 1 17·3 | ............ | + 2 57 20·2 |
|  | ζ Tauri...... | 15·0 | 18·5 | +0·1 | 69 2 16·7 | ...... | ...... | ...... | ...... | + 0 42·2 | ............ | +21 2 28·2 |
|  | χ Orionis...... | 3·9 | 6·2 | +0·4 | 99 47 5·3 | ...... | ...... | ...... | ...... | + 2 8·3 | ............ | − 9 43 46·5 |
|  | (f) Moon North Limb... | 20·0 | 23·0 | +0·1 | 65 41 21·5 | − 0·9 | ...... | ...... | ...... | + 0 35·8 | ............ | +24 23 30·7 |
|  | (b) ϱ Leporis...... | 4·5 | 4·2 | +0·4 | 106 31 4·7 | − 0·1 | 43·0 | 29·59 | 43·7 | + 3 1·7 | ............ | −16 28 39·2 |
|  | 5 Monocerotis...... | 27·6 | 29·4 | +0·3 | 96 17 28·7 | ...... | ...... | ...... | ...... | + 1 50·0 | ............ | − 6 13 51·6 |
| Dec. 18 | (g) Nadir...... | 59·9<br>64·7 | 63·5<br>68·8 | −0·1 | 214 8 3·9 | ...... | ...... | ...... | ...... | ......... | 4·2 | ............ |
|  | ............ | 64·7<br>59·0 | 69·4<br>65·0 | −0·1 | 214 8 4·5 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | γ Ceti...... | 42·8 | 46·4 | +0·2 | 87 29 44·8 | ...... | 42·1 | 29·88 | 45·0 | + 1 19·2 | ............ | + 2 34 23·4 |
|  | $\varrho^2$ Eridani...... | 42·9 | 45·6 | +0·3 | 98 21 44·5 | ...... | ...... | ...... | ...... | + 2 1·6 | ............ | − 8 18 18·7 |
|  | 22 Eridani...... | 50·0 | 53·0 | +0·3 | 95 46 51·7 | ...... | ...... | ...... | ...... | + 1 48·9 | ............ | − 5 43 13·2 |
|  | δ Eridani...... | 3·5 | 6·9 | +0·4 | 100 21 5·5 | ...... | ...... | ...... | ...... | + 2 13·0 | ............ | −10 17 51·1 |
|  | π Eridani...... | 46·7 | 48·1 | +0·4 | 102 38 47·9 | ...... | 42·7 | 29·88 | 43·8 | + 2 28·6 | ............ | −12 35 49·1 |
|  | 32 Eridani...... | 5·5 | 8·4 | +0·3 | 93 29 7·3 | ...... | ...... | ...... | ...... | + 1 39·2 | ............ | − 3 25 19·1 |
|  | $\gamma^1$ Eridani...... | 17·2 | 19·2 | +0·4 | 104 0 18·6 | ...... | ...... | ...... | ...... | + 2 39·5 | ............ | −13 57 30·7 |
|  | (b) μ Tauri...... | 36·0 | 38·8 | +0·1 | 81 34 37·5 | 0·0 | ...... | ...... | ...... | + 1 4·2 | ............ | + 8 29 45·7 |
|  | $\nu^2$ Eridani...... | 22·9 | 25·0 | +0·3 | 93 44 24·3 | ...... | 42·5 | 29·90 | 43·5 | + 1 40·3 | ............ | − 3 40 37·2 |
|  | $\pi^1$ Orionis...... | 44·5 | 47·2 | +0·1 | 81 26 45·9 | ...... | ...... | ...... | ...... | + 1 3·9 | ............ | + 8 37 37·6 |
|  | 5 Orionis...... | 21·9 | 25·8 | +0·2 | 87 49 24·1 | ...... | ...... | ...... | ...... | + 1 20·1 | ............ | + 2 14 43·2 |
|  | 8 Orionis...... | 17·6 | 20·1 | +0·2 | 87 53 19·1 | ...... | ...... | ...... | ...... | + 1 20·3 | ............ | + 2 10 48·0 |
|  | ω Aurigæ...... | 14·5 | 17·0 | +0·1 | 52 26 15·8 | ...... | ...... | ...... | ...... | + 0 19·5 | ............ | +37 38 52·1 |
|  | ζ Aurigæ...... | 40·0 | 43·1 | +0·1 | 49 14 41·7 | ...... | ...... | ...... | ...... | + 0 15·9 | ............ | +40 50 29·8 |
|  | 66 Eridani...... | 52·2 | 53·2 | +0·3 | 94 55 52·9 | ...... | ...... | ...... | ...... | + 1 45·3 | ............ | − 4 52 10·8 |
|  | β Eridani...... | 14·9 | 16·7 | +0·3 | 95 21 16·0 | ...... | ...... | ...... | ...... | + 1 47·1 | ............ | − 5 17 35·7 |
|  | $\varrho^1$ Orionis...... | 52·7 | 55·5 | +0·2 | 87 23 54·4 | ...... | ...... | ...... | ...... | + 1 19·0 | ............ | + 2 40 14·0 |

(a) Wire III.
(b Wire IV.

(c) At $4^h$ $52^m$ $13^s$.
(d) Wire I.

(e) Wire III.
(f) At $5^h$ $53^m$ $36^s$. Transit Clock.

(g) At $20^h$ $30^m$.

| Date. | Object Observed. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Dec. 18 | 18 Orionis | 50·0 | 53·1 | +0·1 | 78 54 51·7 | ...... | ...... | ...... | ...... | + 0 58·6 | 304 8 4·2 | +11 9 37·1 |
| | ξ Leporis | 29·3 | 30·0 | +0·4 | 104 7 29·9 | ...... | ...... | ...... | ...... | + 2 40·8 | ............ | −14 4 43·3 |
| | $\psi^2$ Orionis | 48·2 | 50·2 | +0·2 | 87 6 49·3 | ...... | ...... | ...... | ...... | + 1 18·2 | ............ | + 2 57 19·9 |
| | 33 Orionis | 1·9 | 3·4 | +0·2 | 86 54 2·9 | ...... | ...... | ...... | ...... | + 1 17·6 | ............ | + 3 10 6·9 |
| | 38 Orionis | 50·0 | 52·0 | +0·2 | 86 24 51·2 | ...... | ...... | ...... | ...... | + 1 16·3 | ............ | + 3 39 19·9 |
| | ι Orionis | 36·4 | 39·0 | +0·3 | 96 4 38·0 | ...... | 42·0 | 29·93 | 43·0 | + 1 50·5 | ............ | − 6 1 1·1 |
| | ν Aurigæ | 22·5 | 25·4 | +0·1 | 50 59 24·1 | ...... | ...... | ...... | ...... | + 0 17·9 | ............ | +39 5 45·4 |
| | μ Orionis | 50·5 | 53·0 | +0·1 | 80 25 51·8 | ...... | ...... | ...... | ...... | + 1 1·8 | ............ | + 9 38 33·8 |
| | (*a*) 74 Orionis | 50·3 | 53·9 | +0·1 | 77 45 52·1 | 0·0 | ...... | ...... | ...... | + 0 56·3 | ............ | +12 18 39·0 |
| | μ Geminorum | 29·0 | 31·7 | +0·1 | 67 29 30·5 | ...... | ...... | ...... | ...... | + 0 38·9 | ............ | +22 35 18·0 |
| | δ Ursæ Minoris S.P. | 49·0 | 55·0 | −0·6 | 356 41 51·3 | ...... | ...... | ...... | ...... | − 0 45·3 | ............ | +86 35 38·6 |
| | ε Geminorum | 2·2 | 4·5 | +0·1 | 64 48 3·6 | ...... | ...... | ...... | ...... | + 0 35·1 | ............ | +25 16 48·7 |
| | 43 Camelopardi | 8·2 | 12·9 | −0·3 | 21 2 10·1 | ...... | ...... | ...... | ...... | − 0 13·8 | ............ | +69 3 31·1 |
| | (*b*) 18 Monocerotis | 20·0 | 23·0 | +0·2 | 87 29 21·7 | ...... | ...... | ...... | ...... | + 1 19·4 | ............ | + 2 34 46·3 |
| | (*c*) Moon South Limb | 28·8 | 31·0 | +0·1 | 68 10 30·0 | − 3·5 | 42·0 | 29·98 | 43·0 | + 0 40·0 | ............ | +21 54 20·9 |
| Dec. 19 | Sun South Limb | 36·6 | 37·0 | +0·5 | 113 42 37·4 | ...... | 45·6 | 30·00 | 45·7 | + 5 9·8 | 4·4 | −23 42 19·6 |
| | (*d*) 22 Eridani | 52·2 | 55·2 | +0·3 | 95 46 53·9 | 0·0 | 47·1 | 29·80 | 46·6 | + 1 47·5 | ............ | − 5 43 13·8 |
| Dec. 22 | 34 Persei | 29·8 | 32·1 | 0·0 | 41 7 31·1 | ...... | 44·8 | 29·13 | 46·9 | + 0 7·0 | ............ | +48 57 49·5 |
| | Piazzi III. 104 | 49·0 | 53·1 | +0·1 | 53 0 51·1 | ...... | ...... | ...... | ...... | + 0 19·6 | ............ | +37 4 16·9 |
| | (*a*) A.S.C. 467 | 59·0 | 61·9 | 0·0 | 40 11 0·4 | + 0·2 | ...... | ...... | ...... | + 0 6·1 | ............ | +49 54 20·9 |
| | 55 Persei | 13·8 | 16·2 | +0·1 | 56 19 15·1 | ...... | ...... | ...... | ...... | + 0 23·4 | ............ | +33 45 49·1 |
| | (*d*) 58 Persei | 53·0 | 55·9 | +0·1 | 49 8 54·6 | 0·0 | 41·2 | 29·12 | 44·1 | + 0 15·5 | ............ | +40 56 17·5 |
| | 59 Persei | 31·8 | 34·0 | +0·1 | 47 1 32·9 | ...... | ...... | ...... | ...... | + 0 13·2 | ............ | +43 3 41·5 |
| | Venus South Limb | 53·5 | 55·0 | +0·5 | 110 27 54·9 | ...... | 36·8 | 28·95 | 39·7 | + 3 53·2 | ............ | −20 26 20·5 |
| Dec. 23 | Sun North Limb | 39·7 | 40·8 | +0·5 | 113 11 40·7 | ...... | 37·0 | 28·94 | 39·5 | + 4 50·4 | ............ | −23 11 3·5 |
| | δ Ursæ Minoris | 22·0 | 26·5 | −0·5 | 3 30 23·7 | ...... | ...... | ...... | ...... | − 0 34·2 | ............ | +86 35 38·1 |
| | (*a*) γ Ceti | 46·8 | 49·2 | +0·2 | 87 29 48·2 | 0·0 | 37·5 | 28·88 | 39·7 | + 1 17·3 | ............ | + 2 34 22·1 |
| | π Persei | 6·0 | 8·5 | +0·1 | 51 3 7·5 | ...... | ...... | ...... | ...... | + 0 17·5 | ............ | +39 2 2·6 |
| | Piazzi II. 237 | 6·0 | 8·0 | −0·4 | 16 18 6·7 | ...... | ...... | ...... | ...... | − 0 18·5 | ............ | +73 47 39·4 |
| | 31 Persei | 7·9 | 10·0 | 0·0 | 40 34 9·0 | ...... | ...... | ...... | ...... | + 0 6·5 | ............ | +49 31 12·1 |
| | Piazzi III. 28 | 58·9 | 61·6 | 0·0 | 41 35 0·2 | ...... | ...... | ...... | ...... | + 0 7·5 | ............ | +48 30 19·9 |
| | 34 Persei | 29·8 | 32·0 | 0·0 | 41 7 31·0 | ...... | ...... | ...... | ...... | + 0 7·1 | ............ | +48 57 49·5 |
| | Piazzi III. 104 | 49·3 | 52·2 | +0·1 | 53 0 50·8 | ...... | ...... | ...... | ...... | + 0 19·7 | ............ | +37 4 17·1 |
| | Piazzi III. 111 | 4·9 | 7·2 | −0·3 | 19 15 5·7 | ...... | ...... | ...... | ...... | − 0 15·3 | ............ | +70 50 37·2 |
| | (*b*) Piazzi III. 137 | 7·9 | 10·5 | +0·1 | 66 1 9·2 | + 0·1 | ...... | ...... | ...... | + 0 35·8 | ............ | +24 3 42·5 |
| | 42 Persei | 33·8 | 35·1 | +0·1 | 57 28 34·6 | ...... | 37·5 | 28·92 | 39·5 | + 0 24·9 | ............ | +32 36 28·1 |
| | Piazzi III. 177 | 3·1 | 6·9 | −0·2 | 27 29 4·9 | ...... | ...... | ...... | ...... | − 0 6·7 | ............ | +62 36 29·4 |
| | Piazzi III. 208 | 33·5 | 35·7 | −0·1 | 31 22 34·6 | ...... | ...... | ...... | ...... | − 0 2·7 | ............ | +58 42 55·7 |
| | 50 Persei | 34·5 | 36·4 | +0·1 | 52 27 35·7 | ...... | ...... | ...... | ...... | + 0 19·1 | ............ | +37 37 32·8 |
| | 47 Tauri | 39·7 | 41·9 | +0·1 | 81 12 41·0 | ...... | ...... | ...... | ...... | + 1 2·0 | ............ | + 8 51 44·6 |
| | μ Tauri | 38·5 | 40·2 | +0·1 | 81 34 39·5 | ...... | ...... | ...... | ...... | + 1 2·7 | ............ | + 8 29 45·4 |
| | 53 Persei | 3·7 | 6·8 | 0·0 | 43 58 5·4 | ...... | ...... | ...... | ...... | + 0 10·0 | ............ | +46 7 12·2 |
| | 58 Persei | 54·3 | 57·0 | +0·1 | 49 8 55·8 | ...... | ...... | ...... | ...... | + 0 15·5 | ............ | +40 56 16·3 |
| | $\nu^2$ Eridani | 27·1 | 27·9 | +0·3 | 93 44 27·8 | ...... | ...... | ...... | ...... | + 1 38·0 | ............ | − 3 40 38·2 |
| | 59 Persei | 31·9 | 33·1 | +0·1 | 47 1 32·5 | ...... | ...... | ...... | ...... | + 0 13·2 | ............ | +43 3 41·9 |
| | 4 Camelopardi | 5·2 | 8·7 | −0·1 | 33 37 6·7 | ...... | ...... | ...... | ...... | − 0 0·6 | ............ | +56 28 21·5 |
| | Piazzi IV. 170 | 44·1 | 46·6 | −0·2 | 26 51 45·1 | ...... | ...... | ...... | ...... | − 0 7·4 | ............ | +63 13 49·9 |
| | 1 Aurigæ | 43·2 | 44·6 | +0·1 | 52 52 44·1 | ...... | ...... | ...... | ...... | + 0 19·6 | ............ | +37 12 23·9 |
| | 3 Orionis | 17·2 | 19·1 | +0·2 | 84 44 18·4 | ...... | ...... | ...... | ...... | + 1 10·2 | ............ | + 5 19 59·0 |
| | 5 Orionis | 26·0 | 28·0 | +0·2 | 87 49 27·2 | ...... | ...... | ...... | ...... | + 1 18·4 | ............ | + 2 14 42·0 |
| | 8 Orionis | 21·0 | 23·1 | +0·2 | 87 53 22·3 | ...... | ...... | ...... | ...... | + 1 18·6 | ............ | + 2 10 46·7 |
| | 5 Aurigæ | 2·0 | 4·1 | +0·1 | 50 56 3·1 | ...... | ...... | ...... | ...... | + 0 17·4 | ............ | +39 9 7·1 |
| | Piazzi IV. 254 | 43·8 | 45·5 | −0·4 | 16 21 44·2 | ...... | ...... | ...... | ...... | − 0 18·5 | ............ | +73 44 1·9 |

(*a*) Wire IV. | (*b*) Wire V. | (*c*) At $6^h$ $55^m$ $40^s$. Transit clock. | (*d*) Wire III.

| DATE. | OBJECT OBSERVED. | Microscope. I. | Microscope. II. | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | ″ | ″ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Dec. 23 | (*a*) 9 Aurigæ | 21·9 | 23·5 | 0·0 | 38 42 22·6 | + 0·2 | 37·6 | 28·97 | 39·5 | + 0 4·6 | 304 8 4·4 | +51 23 0·2 |
| | (*b*) Venus South Limb | 59·2 | 60·7 | +0·5 | 110 13 0·6 | 0·0 | 36·1 | 29·20 | 37·3 | + 3 51·5 | 4·6 | −20 11 24·3 |
| Dec. 24 | Sun South Limb | 6·4 | 6·3 | +0·5 | 113 43 6·9 | …… | 36·8 | 29·19 | 37·6 | + 5 7·1 | …… | −23 42 46·2 |
| | δ Ursæ Minoris | 22·0 | 26·6 | −0·5 | 3 30 23·8 | …… | …… | …… | …… | − 0 34·5 | …… | +86 35 38·5 |
| | 12 Persei | 20·1 | 23·0 | +0·1 | 50 33 21·7 | …… | …… | …… | …… | + 0 17·3 | …… | +39 31 48·8 |
| | (*c*) 14 Persei | 25·8 | 28·0 | +0·1 | 46 27 27·0 | + 0·7 | 34·6 | 29·30 | 36·0 | + 0 12·8 | …… | +43 37 47·3 |
| | π Persei | 6·0 | 9·1 | +0·1 | 51 3 7·7 | …… | …… | …… | …… | + 0 17·9 | …… | +39 2 2·2 |
| | ϱ² Eridani | 45·9 | 46·0 | +0·3 | 98 21 46·2 | …… | …… | …… | …… | + 2 1·2 | …… | − 8 18 19·6 |
| | 31 Persei | 8·5 | 10·5 | 0·0 | 40 34 9·5 | …… | …… | …… | …… | + 0 6·6 | …… | +49 31 11·7 |
| | Piazzi III. 28 | 59·3 | 61·2 | 0·0 | 41 35 0·2 | …… | …… | …… | …… | + 0 7·7 | …… | +48 30 19·9 |
| | (*d*) Nadir | 59·9<br>65·0 | 64·4<br>68·8 | −0·1 | 214 8 4·4 | …… | …… | …… | …… | …… | …… | …… |
| | …… | 5·2<br>0·2 | 9·4<br>5·0 | −0·1 | 214 8 4·8 | …… | …… | …… | …… | …… | …… | …… |
| | Piazzi III. 104 | 50·0 | 53·9 | +0·1 | 53 0 52·0 | …… | …… | …… | …… | + 0 20·1 | …… | +37 4 15·7 |
| | Piazzi III. 111 | 4·0 | 6·2 | −0·3 | 19 15 4·8 | …… | …… | …… | …… | − 0 15·6 | …… | +70 50 38·6 |
| | A.S.C. 407 | 20·4 | 21·1 | +0·4 | 101 2 21·1 | …… | …… | …… | …… | + 2 16·8 | …… | −10 59 10·1 |
| | π Eridani | 48·5 | 50·0 | +0·4 | 102 38 49·7 | …… | 35·1 | 29·30 | 37·2 | + 2 28·1 | …… | −12 35 50·0 |
| | Piazzi III. 177 | 3·2 | 6·5 | −0·2 | 27 29 4·7 | …… | …… | …… | …… | − 0 6·8 | …… | +62 36 29·9 |
| | 32 Eridani | 7·0 | 9·0 | +0·3 | 93 29 8·3 | …… | …… | …… | …… | + 1 38·8 | …… | − 3 25 19·3 |
| | Piazzi III. 208 | 33·0 | 35·7 | −0·1 | 31 22 34·3 | …… | …… | …… | …… | − 0 2·8 | …… | +58 42 56·3 |
| | 47 Tauri | 38·9 | 41·5 | +0·1 | 81 12 40·3 | …… | …… | …… | …… | + 1 3·1 | …… | + 8 51 44·4 |
| | 39 Eridani | 10·4 | 12·0 | +0·4 | 100 42 11·6 | …… | …… | …… | …… | + 2 14·6 | …… | −10 38 58·4 |
| | ν² Eridani | 25·2 | 25·4 | +0·3 | 93 44 25·6 | …… | …… | …… | …… | + 1 39·7 | …… | − 3 40 37·5 |
| | 59 Persei | 32·8 | 34·0 | +0·1 | 47 1 33·5 | …… | …… | …… | …… | + 0 13·4 | …… | +43 3 40·9 |
| | 4 Camelopardi | 5·5 | 8·0 | −0·1 | 33 37 6·6 | …… | …… | …… | …… | − 0 0·5 | …… | +56 28 21·7 |
| | Piazzi IV. 170 | 43·8 | 45·6 | −0·2 | 26 51 44·5 | …… | …… | …… | …… | − 0 7·5 | …… | +63 13 50·8 |
| | 1 Aurigæ | 43·5 | 44·1 | +0·1 | 52 52 43·9 | …… | …… | …… | …… | + 0 19·9 | …… | +37 12 24·0 |
| | 3 Orionis | 16·2 | 18·4 | +0·2 | 84 44 17·5 | …… | …… | …… | …… | + 1 11·4 | …… | + 5 19 58·9 |
| | 5 Orionis | 25·0 | 26·8 | +0·2 | 87 49 26·1 | …… | …… | …… | …… | + 1 19·7 | …… | + 2 14 42·0 |
| | 8 Orionis | 18·7 | 21·0 | +0·2 | 87 53 20·1 | …… | …… | …… | …… | + 1 19·9 | …… | + 2 10 47·8 |
| | 5 Aurigæ | 1·5 | 2·5 | +0·1 | 50 56 2·1 | …… | …… | …… | …… | + 0 17·7 | …… | +39 9 8·0 |
| | 63 Eridani | 2·6 | 3·8 | +0·4 | 100 33 3·6 | …… | …… | …… | …… | + 2 13·6 | …… | −10 29 49·4 |
| | (*b*) 9 Aurigæ | 21·9 | 23·5 | 0·0 | 38 42 22·7 | 0·0 | …… | …… | …… | + 0 4·7 | …… | +51 23 0·4 |
| | Piazzi IV. 269 | 40·2 | 42·5 | −0·4 | 11 3 41·0 | …… | …… | …… | …… | − 0 25·0 | …… | +79 2 11·8 |
| | 14 Orionis | 59·0 | 61·2 | +0·1 | 81 47 0·2 | …… | 35·4 | 29·30 | 36·3 | + 1 4·3 | …… | + 8 17 23·3 |
| | ϱ¹ Orionis | 54·8 | 56·0 | +0·2 | 87 23 55·6 | …… | …… | …… | …… | + 1 18·5 | …… | + 2 40 13·7 |
| | 18 Orionis | 51·9 | 53·3 | +0·1 | 78 54 52·7 | …… | …… | …… | …… | + 0 58·2 | …… | +11 9 36·9 |
| Dec. 26 | (*e*) Piazzi II. 97 | 46·0 | 50·4 | −0·3 | 17 57 47·9 | + 1·5 | 38·8 | 28·76 | 40·7 | − 0 16·6 | 4·8 | +72 7 55·2 |
| | (*f*) 12 Persei | 20·8 | 23·2 | +0·1 | 50 33 22·1 | + 0·4 | …… | …… | …… | + 0 16·9 | …… | +39 31 48·6 |
| | Piazzi III. 105 | 46·1 | 50·1 | −0·2 | 27 14 47·9 | …… | …… | …… | …… | − 0 6·9 | …… | +62 50 47·0 |
| | 39 Eridani | 15·2 | 16·2 | +0·4 | 100 42 16·1 | …… | …… | …… | …… | + 2 11·3 | …… | −10 38 59·4 |
| | 54 Persei | 59·8 | 61·1 | +0·1 | 55 54 0·6 | …… | 38·1 | 28·78 | 41·1 | + 0 22·9 | …… | +34 11 4·5 |
| | (*b*) 2 Camelopardi | 51·9 | 54·7 | 0·0 | 36 55 53·3 | 0·0 | …… | …… | …… | + 0 2·7 | …… | +53 9 32·0 |
| | 4 Camelopardi | 4·2 | 7·8 | −0·1 | 33 37 5·9 | …… | …… | …… | …… | − 0 0·5 | …… | +56 28 22·6 |
| | 1 Aurigæ | 44·0 | 46·1 | +0·1 | 52 52 45·2 | …… | …… | …… | …… | + 0 19·5 | …… | +37 12 23·3 |
| | (*c*) 3 Orionis | 20·5 | 22·0 | +0·2 | 84 44 21·5 | + 0·1 | …… | …… | …… | + 1 9·7 | …… | + 5 19 56·7 |
| | (*g*) ω Eridani | 49·1 | 51·8 | +0·3 | 95 46 50·7 | − 0·1 | …… | …… | …… | + 1 45·8 | …… | − 5 43 8·4 |
| | (*c*) 7 Orionis | 37·9 | 40·3 | +0·1 | 80 10 39·2 | + 0·1 | …… | …… | …… | + 0 59·4 | …… | + 9 53 49·3 |
| | 63 Eridani | 6·5 | 7·9 | +0·4 | 100 33 7·6 | …… | …… | …… | …… | + 2 10·6 | …… | −10 29 50·2 |
| | (*a*) 9 Aurigæ | 21·8 | 24·3 | 0·0 | 38 42 23·0 | + 0·2 | …… | …… | …… | + 0 4·6 | …… | +51 23 0·2 |
| | 14 Orionis | 2·0 | 4·8 | +0·1 | 81 47 3·5 | …… | …… | …… | …… | + 1 2·8 | …… | + 8 17 21·7 |
| | ϱ¹ Orionis | 57·8 | 59·1 | +0·2 | 87 23 58·7 | …… | …… | …… | …… | + 1 16·7 | …… | + 2 40 12·6 |

(*a*) Wire IV.
(*b*) Wire III.
(*c*) Wire V.

(*d*) At $3^{h}$ $20^{m}$.
(*e*) $1^{m}$ $36^{s}$ after transit.

(*f*) $40^{s}$ after transit.
(*g*) $30^{s}$ after transit.

| DATE. | OBJECT OBSERVED. | Microscope. |  | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | I. | II. |  |  |  |  |  |  |  |  |  |
|  |  | ″ | ″ | ′ | ° ′ ″ | ″ | ° | In. | ° | ′ ″ | ° ′ ″ | ° ′ ″ |
| Dec. 26 | (*a*) μ Leporis | 12·4 | 12·2 | +0·4 | 106 26 12·7 | − 0·2 | ...... | ...... | ...... | + 2 57·7 | 304 8 4·8 | −16 23 42·2 |
|  | (*b*) 16 Camelopardi | 20·8 | 23·5 | −0·1 | 32 42 22·0 | 0·0 | ...... | ...... | ...... | − 0 1·4 | ............ | +57 23 7·4 |
|  | σ Aurigæ | 7·9 | 10·0 | +0·1 | 52 51 9·0 | ...... | ...... | ...... | ...... | + 0 19·5 | ............ | +37 13 59·5 |
|  | ξ Leporis | 34·0 | 34·2 | +0·4 | 104 7 34·5 | ...... | ...... | ...... | ...... | + 2 36·2 | ............ | −14 4 42·7 |
|  | ψ² Orionis | 52·8 | 54·0 | +0·2 | 87 6 53·6 | ...... | ...... | ...... | ...... | + 1 16·0 | ............ | + 2 57 18·4 |
|  | 33 Orionis | 6·5 | 8·4 | +0·2 | 86 54 7·7 | ...... | ...... | ...... | ...... | + 1 15·4 | ............ | + 3 10 4·9 |
|  | 38 Orionis | 55·5 | 56·7 | +0·2 | 86 24 56·3 | ...... | ...... | ...... | ...... | + 1 14·1 | ............ | + 3 39 17·6 |
|  | ι Orionis | 41·9 | 44·4 | +0·3 | 96 4 43·5 | ...... | 37·7 | 28·79 | 40·3 | + 1 47·3 | ............ | − 6 1 2·8 |
|  | (*a*) Venus South Limb | 17·1 | 19·8 | +0·5 | 109 31 18·9 | − 0·1 | 37·0 | 28·95 | 38·1 | + 3 38·0 | ............ | −19 29 28·8 |
|  | (*c*) δ Ursæ Minoris | 22·4 | 27·0 | −0·5 | 3 30 24·2 | + 0·6 | ...... | ...... | ...... | − 0 34·2 | ............ | +86 35 37·4 |
| Dec. 27 | Sun North Limb | 31·5 | 32·5 | +0·5 | 113 5 32·5 | ...... | 37·9 | 28·95 | 38·6 | + 4 47·5 | ............ | −23 4 50·0 |
|  | Piazzi II. 221 | 52·1 | 54·0 | +0·1 | 55 31 53·1 | ...... | 33·7 | 29·17 | 34·8 | + 0 23·0 | ............ | +34 33 11·9 |
|  | ρ Persei | 15·3 | 17·9 | +0·1 | 51 51 16·7 | ...... | ...... | ...... | ...... | + 0 18·7 | ............ | +38 13 52·6 |
|  | 32 Persei | 33·8 | 35·9 | +0·1 | 47 19 35·0 | ...... | ...... | ...... | ...... | + 0 13·8 | ............ | +42 45 39·2 |
|  | Piazzi III. 105 | 45·9 | 49·5 | −0·2 | 27 14 47·5 | ...... | ...... | ...... | ...... | − 0 7·1 | ............ | +62 50 47·6 |
|  | A.S.C. 407 | 20·0 | 19·9 | +0·4 | 101 2 20·3 | ...... | ...... | ...... | ...... | + 2 16·5 | ............ | −10 59 8·8 |
|  | A.S.C. 416 | 37·6 | 39·2 | +0·1 | 67 8 38·5 | ...... | ...... | ...... | ...... | + 0 38·1 | ............ | +22 56 11·4 |
|  | Piazzi III. 177 | 2·9 | 6·1 | −0·2 | 27 29 4·3 | ...... | 34·6 | 29·20 | 35·5 | − 0 6·8 | ............ | +62 36 30·5 |
|  | 39 Eridani | 12·8 | 14·0 | +0·4 | 100 42 13·8 | ...... | ...... | ...... | ...... | + 2 14·4 | ............ | −10 39 0·2 |
|  | 54 Persei | 0·9 | 1·5 | +0·1 | 55 54 1·3 | ...... | ...... | ...... | ...... | + 0 23·4 | ............ | +34 11 3·3 |
|  | 2 Camelopardi | 52·0 | 53·8 | 0·0 | 36 55 52·9 | ...... | 34·0 | 29·23 | 35·2 | + 0 2·7 | ............ | +53 9 32·4 |
|  | 60 Eridani | 1·5 | 1·0 | +0·4 | 106 32 1·6 | ...... | ...... | ...... | ...... | + 3 3·0 | ............ | −16 29 36·6 |
|  | ω Eridani | 49·0 | 50·0 | +0·3 | 95 46 49·8 | ...... | ...... | ...... | ...... | + 1 48·4 | ............ | − 5 43 10·2 |
|  | (*d*) 7 Orionis | 35·9 | 37·7 | +0·1 | 80 10 36·9 | 0·0 | ...... | ...... | ...... | + 1 0·9 | ............ | + 9 53 50·2 |
|  | (*b*) 5 Aurigæ | 1·2 | 4·0 | +0·1 | 50 56 2·7 | 0·0 | ...... | ...... | ...... | + 0 17·7 | ............ | +39 9 7·6 |
|  | 63 Eridani | 3·8 | 4·6 | +0·4 | 100 33 4·6 | ...... | ...... | ...... | ...... | + 2 13·7 | ............ | −10 29 50·3 |
|  | Piazzi IV. 269 | 40·1 | 43·2 | −0·4 | 11 3 41·3 | ...... | ...... | ...... | ...... | − 0 25·0 | ............ | +79 2 11·7 |
|  | 14 Orionis | 58·7 | 61·0 | +0·1 | 81 46 59·9 | ...... | ...... | ...... | ...... | + 1 4·4 | ............ | + 8 17 23·7 |
|  | (*e*) μ Leporis | 8·9 | 9·1 | +0·4 | 106 26 9·4 | − 0·2 | ...... | ...... | ...... | + 3 2·0 | ............ | −16 23 43·2 |
|  | (*a*) κ Leporis | 45·9 | 45·2 | +0·4 | 103 10 45·9 | − 0·2 | ...... | ...... | ...... | + 2 32·2 | ............ | −13 7 49·9 |
|  | (*d*) 19 Aurigæ | 42·7 | 43·3 | +0·1 | 56 17 43·1 | + 0·1 | ...... | ...... | ...... | + 0 24·0 | ............ | +33 47 20·8 |
|  | σ Aurigæ | 7·2 | 9·2 | +0·1 | 52 51 8·3 | ...... | ...... | ...... | ...... | + 0 19·9 | ............ | +37 13 59·8 |
|  | (*b*) ξ Leporis | 31·4 | 30·4 | +0·4 | 104 7 31·3 | 0·0 | ...... | ...... | ...... | + 2 40·0 | ............ | −14 4 43·3 |
|  | (*a*) φ Aurigæ | 52·0 | 52·8 | +0·1 | 55 44 52·5 | + 0·5 | ...... | ...... | ...... | + 0 23·3 | ............ | +34 20 11·7 |
|  | 33 Orionis | 3·5 | 4·2 | +0·2 | 86 54 4·1 | ...... | ...... | ...... | ...... | + 1 17·2 | ............ | + 3 10 6·7 |
|  | 38 Orionis | 54·6 | 54·3 | +0·2 | 86 24 54·7 | ...... | ...... | ...... | ...... | + 1 15·8 | ............ | + 3 39 17·5 |
|  | 42 Orionis | 27·0 | 27·1 | +0·3 | 95 0 27·3 | ...... | 34·0 | 29·25 | 34·8 | + 1 45·1 | ............ | − 4 56 44·4 |
|  | (*a*) Venus South Limb | 23·5 | 23·7 | +0·5 | 109 18 24·1 | − 0·3 | 36·8 | 29·56 | 37·0 | + 3 39·4 | ............ | −19 16 35·2 |
|  | δ Ursæ Minoris | 23·8 | 28·0 | −0·5 | 3 30 25·4 | ...... | ...... | ...... | ...... | − 0 34·9 | ............ | +86 35 37·5 |
| Dec. 28 | Sun South Limb | 2·8 | 3·8 | +0·5 | 113 35 3·8 | ...... | 37·5 | 29·56 | 37·8 | + 5 6·8 | ............ | −23 34 42·6 |
|  | δ Ursæ Minoris | 23·7 | 29·0 | −0·5 | 3 30 25·8 | ...... | 46·6 | 29·42 | 46·2 | − 0 34·1 | ............ | +86 35 36·3 |
| Dec. 29 | Sun North Limb | 34·7 | 35·0 | +0·5 | 112 59 35·4 | ...... | 46·7 | ...... | ...... | + 4 44·2 | ............ | −22 58 51·6 |
| Dec. 30 | (*f*) δ Ursæ Minoris | 24·0 | 28·3 | −0·5 | 3 30 25·6 | + 0·1 | 48·0 | 29·40 | 48·5 | − 0 34·0 | 5·0 | +86 35 36·5 |
| Dec. 31 | ρ Persei | 14·7 | 16·5 | +0·1 | 51 51 15·7 | ...... | 36·5 | 29·74 | 43·5 | + 0 19·0 | ............ | +38 13 53·5 |
|  | (*g*) Nadir | 59·9<br>65·1 | 64·9<br>69·5 | −0·1 | 214 8 4·7 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | ........................ | 5·5<br>0·0 | 10·1<br>5·6 | −0·1 | 214 8 5·2 | ...... | ...... | ...... | ...... | ......... | ............ | ............ |
|  | Piazzi III. 160 | 29·6 | 33·2 | −0·5 | 9 50 30·9 | ...... | 37·3 | 29·75 | 41·2 | − 0 26·8 | ............ | +80 15 24·1 |
|  | Piazzi IV. 22 | 2·0 | 6·6 | −0·1 | 29 44 4·2 | ...... | ...... | ...... | ...... | − 0 4·6 | ............ | +60 21 28·6 |
|  | 54 Persei | 59·2 | 61·0 | +0·1 | 55 54 0·2 | ...... | ...... | ...... | ...... | + 0 23·7 | ............ | +34 11 4·3 |

(*a*) Wire V.
(*b*) Wire III.
(*c*) At $18^{h}\ 19^{m}\ 31^{s}$. Transit clock.
(*d*) Wire IV.
(*e*) Wire I.
(*f*) At $18^{h}\ 22\ \ 31^{s}$. Transit clock.
(*g*) At $3^{h}\ 30^{m}$.

| DATE. | OBJECT OBSERVED. | Microscope. | | Correction. | Mean Reading of Circle. | Reduction to Meridian. | Ext. Ther. | Bar. | Att. Ther. | Refraction. | North Horizontal Point. | Apparent Declination Observed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I. | II. | | | | | | | | | |
| | | " | " | " | ° ′ " | " | ° | In. | ° | ′ " | ° ′ | ° ′ " |
| Dec. 31 | 3 Camelopardi | 38·6 | 41·9 | 0·0 | 37 19 40·3 | ...... | ...... | ...... | ...... | + 0 3·3 | 304 8 5·0 | +52 45 44·6 |
| | 7 Camelopardi | 41·1 | 43·1 | 0·0 | 36 35 42·1 | ...... | ...... | ...... | ...... | + 0 2·6 | ............ | +53 29 43·5 |
| | (*a*) 7 Orionis | 35·1 | 38·8 | +0·1 | 80 10 37·0 | + 0·1 | 37·8 | 29·81 | 39·5 | + 1 1·6 | ............ | + 9 53 49·5 |
| | Piazzi IV. 254 | 43·0 | 45·9 | −0·4 | 16 21 44·0 | ...... | ...... | ...... | ...... | − 0 19·0 | ............ | +73 44 3·2 |
| | Piazzi IV. 269 | 39·2 | 44·1 | −0·4 | 11 3 41·3 | ...... | ...... | ...... | ...... | − 0 25·3 | ............ | +79 2 12·2 |
| | Piazzi IV. 294 | 30·8 | 33·0 | 0·0 | 43 19 31·9 | ...... | ...... | ...... | ...... | + 0 9·6 | ............ | +46 45 46·7 |
| | (*b*) μ Leporis | 6·8 | 8·6 | +0·4 | 106 26 8·1 | − 0·2 | ...... | ...... | ...... | + 3 4·1 | ............ | −16 23 43·8 |
| | (*a*) ϰ Leporis | 45·8 | 47·8 | +0·4 | 103 10 47·2 | − 0·2 | ...... | ...... | ...... | + 2 34·0 | ............ | −13 7 52·8 |
| | (*c*) 19 Aurigæ | 42·5 | 43·6 | +0·1 | 56 17 43·2 | + 0·1 | ...... | ...... | ...... | + 0 24·2 | ............ | +33 47 20·7 |
| | σ Aurigæ | 6·2 | 9·2 | +0·1 | 52 51 7·8 | ...... | ...... | ...... | ...... | + 0 20·2 | ............ | +37 14 0·2 |
| | 29 Orionis | 50·2 | 52·0 | +0·3 | 98 0 51·4 | ...... | ...... | ...... | ...... | + 2 0·8 | ............ | − 7 57 24·0 |
| | 18 Camelopardi | 16·3 | 19·9 | −0·1 | 32 59 18·0 | ...... | ...... | . .... | ...... | − 0 1·2 | ............ | +57 6 11·4 |
| | υ Orionis | 47·5 | 50·0 | +0·3 | 97 28 49·1 | ...... | ...... | . .... | ...... | + 1 58·0 | ............ | − 7 25 18·9 |
| | λ Orionis, preceding | 57·0 | 59·5 | +0·1 | 80 14 58·4 | ...... | ...... | ...... | ...... | + 1 1·8 | ............ | + 9 49 28·0 |
| | 42 Orionis | 26·4 | 27·9 | +0·3 | 95 0 27·4 | 0·0 | ...... | ...... | ...... | + 1 46·4 | ............ | − 4 56 45·6 |
| | 26 Camelopardi | 50·4 | 53·5 | −0·1 | 34 2 51·9 | ...... | ...... | ...... | ...... | − 0 0·2 | ............ | +56 2 36·5 |
| | 29 Camelopardi | 53·5 | 57·0 | −0·1 | 33 13 55·2 | ...... | ...... | ...... | ..... | − 0 0·9 | ............ | +56 51 33·9 |
| | ν Aurigæ | 22·8 | 26·0 | +0·1 | 50 59 24·5 | ...... | 37·0 | 29·82 | 38·7 | + 0 18·0 | ............ | +39 5 45·7 |

(*a*) Wire V.

(*b*) Wire I.

(*c*) Wire IV.

## ROYAL OBSERVATORY, EDINBURGH.

### Mean Declinations of the Stars observed in the Year 1842, reduced to January 1, 1842.

| α Andromedæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 19 | +28 | 13 | 5·4 |
| | 20 | | | 5·3 |
| | 21 | | | 5·1 |
| | 25 | | | 5·3 |
| | 27 | | | 5·9 |

| Groombridge 29. | | | | |
|---|---|---|---|---|
| Oct. | 7 | +76 | 4 | 20·4 |
| | 10 | | | 21·0 |
| | 11 | | | 19·6 |

| Groombridge 29 S.P. | | | | |
|---|---|---|---|---|
| Apr. | 9 | +76 | 4 | 18·6 |
| | 11 | | | 19·2 |
| | 16 | | | 17·7 |

| σ Andromedæ. | | | | |
|---|---|---|---|---|
| Oct. | 12 | +35 | 54 | 32·8 |
| | 13 | | | 32·9 |
| | 24 | | | 32·8 |

| 41 Piscium. | | | | |
|---|---|---|---|---|
| Sept. | 20 | + 7 | 18 | 46·1 |
| Nov. | 13 | | | 45·8 |
| | 14 | | | 44·6 |

| ρ Andromedæ. | | | | |
|---|---|---|---|---|
| Oct. | 12 | +37 | 5 | 35·6 |
| | 13 | | | 35·8 |
| | 24 | | | 36·6 |

| 12 Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 12 | +60 | 57 | 17·2 |
| | 13 | | | 18·2 |
| | 24 | | | 17·0 |

| Piazzi O. 74. | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 12 | +43 | 31 | 12·1 |
| | 13 | | | 13·0 |
| | 24 | | | 12·6 |

| Piazzi O. 118. | | | | |
|---|---|---|---|---|
| Oct. | 24 | +53 | 17 | 50·6 |
| | 26 | | | 51·0 |
| Nov. | 9 | | | 50·3 |

| Piazzi O. 124. | | | | |
|---|---|---|---|---|
| Oct. | 25 | +43 | 36 | 58·4 |
| Nov. | 12 | | | 58·5 |
| | 14 | | | 58·2 |

| Piazzi O. 128. | | | | |
|---|---|---|---|---|
| Nov. | 18 | +34 | 31 | 45·3 |
| | 23 | | | 45·1 |
| | 24 | | | 45·0 |

| α Cassiopeæ. | | | | |
|---|---|---|---|---|
| Jan. | 21 | +55 | 40 | 10·7 |
| | 25 | | | 11·7 |
| | 27 | | | 11·9 |
| | 28 | | | 13·3 |
| | 29 | | | 11·5 |

| 32 Andromedæ. | | | | |
|---|---|---|---|---|
| Oct. | 26 | +38 | 35 | 26·0 |
| | 29 | | | 26·5 |
| Nov. | 4 | | | 25·2 |

| ξ Cassiopeæ. | | | | |
|---|---|---|---|---|
| Nov. | 9 | +49 | 38 | 42·4 |
| | 12 | | | 41·7 |
| | 14 | | | 41·2 |

| A.S.C. 64. | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 24 | −12 | 40 | 16·3 |
| | 25 | | | 16·5 |

| π Cassiopeæ. | | | | |
|---|---|---|---|---|
| Jan. | 27 | +46 | 9 | 34·5 |
| | 28 | | | 34·5 |
| | 29 | | | 34·3 |

| 21 Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 26 | +74 | 7 | 22·9 |
| | 29 | | | 22·5 |
| Nov. | 9 | | | 23·8 |

| ο Cassiopeæ. | | | | |
|---|---|---|---|---|
| Nov. | 12 | +47 | 25 | 8·0 |
| | 14 | | | 7·3 |
| | 18 | | | 7·5 |

| $\varphi^1$ Ceti. | | | | |
|---|---|---|---|---|
| Jan. | 21 | −11 | 28 | 14·9 |
| | 25 | | | 12·9 |
| Oct. | 24 | | | 14·7 |

| 23 Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 25 | +73 | 58 | 59·3 |
| | 29 | | | 59·4 |
| Nov. | 9 | | | 60·8 |

| 59 Piscium. | | | | |
|---|---|---|---|---|
| Jan. | 20 | +18 | 42 | 52·4 |

| ζ Andromedæ. | | | | |
|---|---|---|---|---|
| Jan. | 21 | +23 | 24 | 24·2 |
| | 25 | | | 25·1 |
| | 27 | | | 24·9 |

| η Cassiopeæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 28 | +56 | 58 | 32·7 |
| | 29 | | | 32·7 |
| Feb. | 2 | | | 32·2 |

| ν Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 24 | +50 | 6 | 20·0 |
| | 25 | | | 20·6 |
| | 26 | | | 19·4 |

| δ Piscium. | | | | |
|---|---|---|---|---|
| Dec. | 12 | + 6 | 43 | 27·6 |

| $\varphi^2$ Ceti. | | | | |
|---|---|---|---|---|
| Jan. | 25 | −11 | 29 | 44·2 |
| | 27 | | | 43·0 |

| Piazzi O. 209. | | | | |
|---|---|---|---|---|
| Oct. | 24 | +60 | 15 | 22·6 |
| | 25 | | | 23·6 |
| | 26 | | | 22·8 |

| $\upsilon^1$ Cassiopeæ. | | | | |
|---|---|---|---|---|
| Nov. | 12 | +58 | 6 | 57·7 |
| | 23 | | | 57 9 |
| Dec. | 8 | | | 56·8 |
| | 12 | | | 57·5 |

| 66 Piscium. | | | | |
|---|---|---|---|---|
| Jan. | 20 | +18 | 19 | 49·3 |
| | 25 | | | 49·2 |
| | 27 | | | 50·1 |

| γ Cassiopeæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 28 | +59 | 51 | 36·1 |
| | 29 | | | 35·0 |
| Feb. | 2 | | | 35·3 |

| $\upsilon^2$ Cassiopeæ. | | | | |
|---|---|---|---|---|
| Oct. | 29 | +58 | 19 | 32·3 |
| Nov. | 23 | | | 33·1 |
| Dec. | 12 | | | 33·2 |

| 67 Piscium. | | | | |
|---|---|---|---|---|
| Nov. | 9 | +26 | 21 | 7·0 |
| | 12 | | | 6·3 |
| | 18 | | | 5·7 |

| A.S.C. 92. | | | | |
|---|---|---|---|---|
| Nov. | 24 | − 8 | 12 | 9·3 |
| | 30 | | | 11·3 |
| Dec. | 2 | | | 9·4 |

| μ Andromedæ. | | | | |
|---|---|---|---|---|
| Jan. | 20 | +37 | 38 | 27·7 |

| $\varphi^3$ Ceti. | | | | |
|---|---|---|---|---|
| Jan. | 21 | −12 | 7 | 24·4 |
| | 25 | | | 21·4 |
| | 27 | | | 21·3 |

| 39 Andromedæ. | | | | |
|---|---|---|---|---|
| Oct. | 24 | +40 | 29 | 40·3 |
| | 25 | | | 39·8 |
| | 26 | | | 40·2 |

| $\sigma^1$ Piscium. | | | | |
|---|---|---|---|---|
| Oct. | 29 | +30 | 57 | 16·1 |
| Nov. | 9 | | | 17·1 |
| | 12 | | | 16·3 |

**ɩ Piscium.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Dec. | 12 | +7 | 2 | 18·1 |

**27 Ceti.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 21 | −10 | 49 | 30·4 |
| | 25 | | | 31·4 |

**μ Cassiopeæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 29 | +54 | 8 | 33·9 |
| Nov. | 9 | | | 33·3 |
| | 18 | | | 33·7 |

**28 Ceti.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 24 | −10 | 41 | 12·9 |
| | 25 | | | 11·2 |
| | 26 | | | 12·7 |

**41 Andromedæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Nov. | 23 | +43 | 5 | 53·4 |
| | 24 | | | 55·1 |
| | 30 | | | 54·8 |

**78 Piscium.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Dec. | 12 | +31 | 10 | 4·2 |

**ψ² Piscium.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 29 | +19 | 53 | 51·1 |
| Nov. | 12 | | | 51·5 |
| | 14 | | | 51·4 |

**30 Ceti.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 25 | −10 | 37 | 55·4 |
| | 27 | | | 53·2 |
| | 28 | | | 54·6 |

**31 Cassiopeæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 26 | +67 | 56 | 7·8 |
| | 29 | | | 8·4 |
| Nov. | 7 | | | 8·2 |

**β Andromedæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Feb. | 19 | +34 | 46 | 53·5 |
| | 21 | | | 53·4 |
| | 22 | | | 52·4 |

**32 Cassiopeæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 25 | +64 | 10 | 36·3 |
| Nov. | 9 | | | 37·1 |
| | 12 | | | 36·6 |

**θ Cassiopeæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 29 | +54 | 18 | 28·3 |
| Feb. | 2 | | | 27·7 |
| | 3 | | | 28·2 |

**32 Ceti.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 28 | −9 | 44 | 51·9 |

**45 Andromedæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Nov. | 14 | +36 | 52 | 54·5 |
| | 23 | | | 53·9 |
| | 24 | | | 54·6 |

**82 Piscium.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 26 | +30 | 34 | 58·5 |
| Nov. | 30 | | | 59·1 |
| Dec. | 12 | | | 58·4 |

**α Ursæ Minoris.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 18 | +88 | 27 | 62·1 |
| | 20 | | | 62·5 |
| | 25 | | | 63·7 |
| | 27 | | | 63·4 |
| | 28 | | | 63·1 |
| | 29 | | | 62·4 |
| Feb. | 2 | | | 61·9 |
| | 3 | | | 63·0 |
| | 8 | | | 62·6 |
| | 11 | | | 62·9 |
| | 12 | | | 62·5 |
| | 15 | | | 63·5 |
| | 16 | | | 62·6 |
| | 19 | | | 63·3 |
| | 21 | | | 62·5 |
| | 22 | | | 62·5 |
| | 25 | | | 62·2 |
| | 26 | | | 61·3 |
| | 28 | | | 62·1 |
| Mar. | 1 | +88 | 27 | 62·8 |
| | 4 | | | 61·2 |
| | 7 | | | 61·5 |
| | 9 | | | 62·4 |
| | 10 | | | 62·9 |
| | 12 | | | 63·0 |
| | 15 | | | 62·6 |
| | 17 | | | 63·4 |
| | 18 | | | 63·1 |
| | 19 | | | 62·6 |
| | 21 | | | 63·7 |
| | 24 | | | 61·2 |
| | 25 | | | 61·0 |
| | 26 | | | 63·0 |
| | 29 | | | 62·5 |
| | 30 | | | 62·7 |
| | 31 | | | 63·8 |
| Apr. | 1 | | | 62·7 |
| | 4 | | | 62·6 |
| | 5 | | | 62·4 |
| | 6 | | | 61·6 |
| | 7 | | | 62·2 |
| | 8 | | | 62·5 |
| | 10 | | | 61·9 |
| | 11 | | | 62·5 |
| | 12 | | | 62·2 |
| | 15 | | | 61·9 |
| | 18 | | | 62·8 |
| | 19 | | | 62·2 |
| | 20 | | | 61·6 |
| | 21 | | | 62·7 |
| | 22 | | | 62·4 |
| | 25 | | | 62·0 |
| | 26 | | | 62·7 |
| | 27 | | | 61·9 |
| | 28 | | | 61·9 |
| May | 2 | | | 62·0 |
| June | 12 | | | 61·0 |
| Sept. | 20 | | | 65·1 |
| Oct. | 19 | | | 59·5 |
| | 20 | | | 60·5 |
| | 24 | | | 61·8 |
| | 25 | | | 62·7 |
| | 26 | | | 62·6 |
| | 29 | | | 62·0 |
| Nov. | 7 | | | 62·2 |
| | 9 | | | 62·6 |
| | 12 | | | 63·1 |
| | 14 | | | 62·6 |
| | 18 | | | 62·2 |
| | 23 | | | 61·7 |
| | 24 | | | 62·6 |
| | 25 | | | 61·8 |
| | 29 | | | 60·8 |
| Nov. | 30 | +88 | 27 | 61·6 |
| Dec. | 8 | | | 62·7 |
| | 12 | | | 62·1 |

**α Ursæ Minoris S.P.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Mar. | 26 | +88 | 27 | 60·2 |
| Apr. | 9 | | | 59·1 |
| | 11 | | | 60·0 |
| | 16 | | | 59·0 |
| | 18 | | | 59·2 |
| | 19 | | | 59·5 |
| | 22 | | | 59·1 |
| | 25 | | | 59 7 |
| | 26 | | | 59·4 |
| | 28 | | | 61·3 |
| | 29 | | | 60·5 |
| May | 2 | | | 59·1 |
| | 9 | | | 58·9 |
| | 12 | | | 59·6 |
| | 21 | | | 60·4 |
| | 23 | | | 59·2 |
| | 28 | | | 59·3 |
| June | 6 | | | 59·5 |
| | 8 | | | 59·5 |
| | 13 | | | 59·7 |
| | 14 | | | 59·7 |
| July | 14 | | | 60·1 |
| | 19 | | | 59·4 |
| | 21 | | | 62·0 |
| | 22 | | | 59·9 |
| | 23 | | | 57·0 |
| | 26 | | | 59·8 |
| | 27 | | | 60·0 |
| | 28 | | | 59·6 |
| | 29 | | | 59·0 |
| Aug. | 4 | | | 60·1 |
| | 9 | | | 61·2 |
| | 11 | | | 60·9 |
| | 16 | | | 59·8 |
| | 17 | | | 60·2 |
| | 22 | | | 59·0 |
| | 25 | | | 60·0 |
| | 26 | | | 61·9 |
| Sept. | 6 | | | 61·1 |
| | 7 | | | 59·6 |
| | 9 | | | 60·0 |
| | 14 | | | 60·2 |
| | 19 | | | 61·2 |
| | 20 | | | 59·9 |
| | 21 | | | 60·6 |
| | 28 | | | 60·0 |
| | 30 | | | 60·0 |
| Oct. | 3 | | | 61·0 |
| Oct. | 4 | +88 | 27 | 60·1 |
| | 6 | | | 60·1 |
| | 7 | | | 60·3 |
| | 8 | | | 59·9 |
| | 10 | | | 60·6<br>59·4 |
| | 11 | | | 59·0 |
| | 12 | | | 59·5 |
| | 13 | | | 59·5 |
| | 14 | | | 59·2 |
| | 18 | | | 60·1 |
| | 19 | | | 59·0 |
| | 20 | | | 59·7 |
| | 21 | | | 59·8 |
| | 23 | | | 59·4 |
| | 31 | | | 61·3 |

**χ Piscium.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 29 | +20 | 11 | 35·3 |
| Feb. | 3 | | | 35·4 |
| Oct. | 24 | | | 35·1 |

**Piazzi I. 9.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 29 | +44 | 29 | 43·4 |
| Nov. | 7 | | | 42·9 |
| | 9 | | | 43·1 |

**φ Cassiopeæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 29 | +57 | 23 | 55·4 |
| Nov. | 7 | | | 55·7 |
| | 12 | | | 55·9 |

**47 Andromedæ.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 25 | +36 | 53 | 17·4 |
| | 26 | | | 17·3 |
| Nov. | 7 | | | 16·9 |

**θ¹ Ceti.**

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|---|---|---|---|---|
| Jan. | 28 | −8 | 59 | 60·6 |
| | 29 | | | 59·9 |
| Feb. | 2 | | | 59·1 |
| | 3 | | | 60·2 |
| Oct. | 24 | | | 61·0 |

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|---|---|---|---|---|
| **ω Andromedæ.** | | | | |
| Oct. | 25 | +44 | 35 | 19·5 |
| | 26 | | | 19·4 |
| Nov. | 7 | | | 19·9 |
| **38 Cassiopeæ.** | | | | |
| Nov. | 9 | +69 | 26 | 55·5 |
| | 14 | | | 54·5 |
| | 23 | | | 54·5 |
| **49 Andromedæ.** | | | | |
| Oct. | 26 | +46 | 11 | 23·9 |
| Nov. | 7 | | | 23·7 |
| | 12 | | | 23·7 |
| **η Piscium.** | | | | |
| Nov. | 14 | +14 | 31 | 47·1 |
| Dec. | 12 | | | 48·0 |
| **χ Cassiopeæ.** | | | | |
| Nov. | 7 | +58 | 25 | 5·8 |
| | 9 | | | 6·8 |
| | 12 | | | 6·0 |
| **40 Cassiopeæ.** | | | | |
| Nov. | 7 | +72 | 13 | 52·8 |
| | 9 | | | 52·9 |
| | 12 | | | 52·2 |
| **Piazzi I. 113.** | | | | |
| Nov. | 14 | +47 | 54 | 48·0 |
| | 23 | | | 47·6 |
| | 30 | | | 47·7 |
| **χ Andromedæ.** | | | | |
| Nov. | 9 | +43 | 34 | 48·1 |
| | 14 | | | 46·1 |
| | 23 | | | 46·7 |
| **42 Cassiopeæ.** | | | | |
| Nov. | 30 | +69 | 49 | 15·5 |
| Dec. | 12 | | | 15·9 |
| | 13 | | | 14·8 |

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|---|---|---|---|---|
| **υ Andromedæ.** | | | | |
| Nov. | 14 | +41 | 49 | 4·5 |
| Dec. | 13 | | | 6·8 |
| **44 Cassiopeæ.** | | | | |
| Nov. | 12 | +59 | 45 | 6·1 |
| | 23 | | | 4·5 |
| | 30 | | | 4·5 |
| **Piazzi I. 170.** | | | | |
| Nov. | 12 | +37 | 9 | 48·6 |
| | 14 | | | 48·4 |
| | 23 | | | 49·3 |
| **1 Persei.** | | | | |
| Oct. | 20 | +54 | 21 | 42·4 |
| Nov. | 12 | | | 43·7 |
| | 14 | | | 43·1 |
| **2 Persei.** | | | | |
| Nov. | 23 | +50 | 0 | 32·6 |
| | 29 | | | 31·6 |
| | 30 | | | 31·7 |
| **55 Andromedæ.** | | | | |
| Nov. | 12 | +39 | 56 | 50·6 |
| | 14 | | | 50·3 |
| **Piazzi I. 200.** | | | | |
| Nov. | 23 | +36 | 20 | 56·8 |
| | 29 | | | 57·3 |
| | 30 | | | 56·9 |
| **β Arietis.** | | | | |
| Feb. | 16 | +20 | 1 | 59·3 |
| Dec. | 12 | | | 59·9 |
| | 13 | | | 59·0 |
| **Piazzi I. 203.** | | | | |
| Nov. | 12 | +36 | 29 | 60·0 |
| | 14 | | | 59·7 |
| | 29 | | | 60·3 |

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| **Groombridge 404.** | | | | |
| Feb. | 3 | +77 | 8 | 44·6 |
| Oct. | 19 | | | 43·1 |
| | 20 | | | 42·8 |
| **Groombridge 404 S.P.** | | | | |
| Apr. | 25 | +77 | 8 | 40·9 |
| | 26 | | | 41·5 |
| May | 9 | | | 41·4 |
| **49 Cassiopeæ.** | | | | |
| Nov. | 12 | +75 | 21 | 2·6 |
| | 14 | | | 2·3 |
| | 23 | | | 2·8 |
| **52 Cassiopeæ.** | | | | |
| Nov. | 29 | +64 | 8 | 3·6 |
| | 30 | | | 3·7 |
| Dec. | 12 | | | 3·8 |
| **53 Cassiopeæ.** | | | | |
| Dec. | 13 | +63 | 37 | 23·8 |
| **ε Trianguli.** | | | | |
| Nov. | 12 | +32 | 31 | 10·4 |
| | 14 | | | 10·4 |
| | 23 | | | 9·8 |
| **58 Andromedæ.** | | | | |
| Oct. | 20 | +37 | 6 | 22·7 |
| Nov. | 12 | | | 22·3 |
| | 14 | | | 22·8 |
| **5 Persei.** | | | | |
| Nov. | 23 | +56 | 53 | 42·9 |
| | 29 | | | 42·3 |
| | 30 | | | 43·8 |
| **59 Andromedæ preced.** | | | | |
| Nov. | 14 | +38 | 17 | 25·8 |
| Dec. | 15 | | | 25·7 |

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| **55 Cassiopeæ.** | | | | |
| Nov. | 12 | +65 | 46 | 45·0 |
| **6 Persei.** | | | | |
| Nov. | 23 | +50 | 19 | 41·0 |
| **60 Andromedæ.** | | | | |
| Nov. | 9 | +43 | 29 | 13·3 |
| | 29 | | | 11·9 |
| | 30 | | | 11·8 |
| **7 Trianguli.** | | | | |
| Nov. | 14 | +32 | 37 | 16·3 |
| | 23 | | | 16·9 |
| | 29 | | | 16·6 |
| **δ Trianguli.** | | | | |
| Nov. | 30 | +33 | 29 | 50·1 |
| Dec. | 13 | | | 53·4 |
| | 15 | | | 51·9 |
| **γ Trianguli.** | | | | |
| Nov. | 9 | +33 | 6 | 47·8 |
| | 12 | | | 47·5 |
| **Piazzi II. 41.** | | | | |
| Nov. | 14 | +48 | 13 | 10·5 |
| | 23 | | | 8·8 |
| | 29 | | | 10·3 |
| **$\theta^1$ Arietis.** | | | | |
| Oct. | 20 | +19 | 10 | 3·3 |
| **63 Andromedæ.** | | | | |
| Nov. | 9 | +49 | 25 | 22·9 |
| | 12 | | | 22·8 |
| Dec. | 10 | | | 21·7 |
| **64 Andromedæ.** | | | | |
| Nov. | 14 | +49 | 17 | 8·2 |
| | 23 | | | 8·9 |
| | 29 | | | 8·8 |

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| **65 Andromedæ.** | | | | |
| Dec. | 10 | +49 | 33 | 33·8 |
| | 13 | | | 35·1 |
| **Groombridge 506.** | | | | |
| Oct. | 20 | +80 | 56 | 11·9 |
| Nov. | 9 | | | 12·8 |
| | 12 | | | 12·4 |
| **Groombridge 506 S.P.** | | | | |
| Apr. | 25 | +80 | 56 | 11·5 |
| | 26 | | | 9·9 |
| May | 9 | | | 8·6 |
| **71 Ceti.** | | | | |
| Nov. | 14 | −3 | 29 | 52·3 |
| **ϱ Ceti.** | | | | |
| Oct. | 20 | −13 | 0 | 19·4 |
| Nov. | 12 | | | 20·8 |
| | 23 | | | 19·2 |
| **ψ Arietis.** | | | | |
| Dec. | 13 | +17 | 0 | 8·2 |
| **14 Trianguli.** | | | | |
| Nov. | 12 | +35 | 26 | 33·1 |
| | 14 | | | 33·0 |
| | 23 | | | 32·7 |
| **Piazzi II. 97.** | | | | |
| Nov. | 29 | +72 | 7 | 16·2 |
| Dec. | 26 | | | 16·6 |
| **80 Ceti.** | | | | |
| Nov. | 12 | −8 | 31 | 18·9 |
| | 14 | | | 18·4 |
| **81 Ceti.** | | | | |
| Nov. | 23 | −4 | 4 | 59·8 |
| | 29 | | | 61·3 |
| Dec. | 13 | | | 57·4 |

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| **ι Arietis.** | | | | |
| Oct. | 20 | +21 | 16 | 27·9 |
| **12 Persei.** | | | | |
| Dec. | 24 | +39 | 31 | 16·9 |
| | 26 | | | 16·6 |
| **84 Ceti.** | | | | |
| Oct. | 20 | − 1 | 22 | 13·5 |
| Nov. | 12 | | | 14·5 |
| **θ Persei.** | | | | |
| Nov. | 14 | +48 | 33 | 20·7 |
| | 23 | | | 20·7 |
| | 29 | | | 20·5 |
| **14 Persei.** | | | | |
| Dec. | 10 | +43 | 37 | 15·8 |
| | 24 | | | 14·7 |
| **35 Arietis.** | | | | |
| Nov. | 12 | +27 | 1 | 52·1 |
| Dec. | 13 | | | 53·9 |
| | 16 | | | 52·6 |
| **γ Ceti.** | | | | |
| Jan. | 20 | + 2 | 33 | 59·0 |
| Mar. | 1 | | | 58·4 |
| Oct. | 20 | | | 61·5 |
| Dec. | 18 | | | 61·1 |
| | 23 | | | 60·2 |
| **39 Arietis.** | | | | |
| Nov. | 23 | +28 | 35 | 12·4 |
| | 29 | | | 13·1 |
| **π Arietis.** | | | | |
| Dec. | 13 | +16 | 48 | 14·1 |
| **17 Persei.** | | | | |
| Oct. | 20 | +34 | 24 | 19·9 |
| Nov. | 23 | | | 20·2 |
| | 29 | | | 19·7 |

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| **Piazzi II. 191** | | | | |
| Nov. | 23 | +78 | 47 | 3·7 |
| | 29 | | | 4·7 |
| Dec. | 10 | | | 3·9 |
| **21 Persei.** | | | | |
| Nov. | 23 | +31 | 17 | 38·3 |
| | 29 | | | 38·1 |
| Dec. | 10 | | | 36·6 |
| **π Persei.** | | | | |
| Dec. | 13 | +39 | 1 | 33·6 |
| | 23 | | | 32·6 |
| | 24 | | | 32·2 |
| **Piazzi II. 221.** | | | | |
| Dec. | 27 | +34 | 32 | 42·8 |
| **ϱ¹ Eridani.** | | | | |
| Nov. | 23 | − 8 | 17 | 21·3 |
| **A.S.C. 331.** | | | | |
| Nov. | 29 | +56 | 4 | 46·3 |
| Dec. | 10 | | | 46·6 |
| | 13 | | | 48·0 |
| **ϱ Persei.** | | | | |
| Dec. | 27 | +38 | 13 | 23·2 |
| | 31 | | | 23·9 |
| **ϱ² Eridani.** | | | | |
| Nov. | 23 | − 8 | 18 | 37·2 |
| Dec. | 18 | | | 36·9 |
| | 24 | | | 37·0 |
| **Piazzi II. 237.** | | | | |
| Dec. | 23 | +73 | 47 | 5·0 |
| **ϱ³ Eridani.** | | | | |
| Nov. | 23 | − 8 | 13 | 20·9 |
| | 29 | | | 23·5 |
| Dec. | 10 | | | 18·6 |

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| **β Persei.** | | | | |
| Jan. | 4 | +40 | 20 | 31·7 |
| Mar. | 1 | | | 32·3 |
| | 9 | | | 31·9 |
| | 10 | | | 31·6 |
| | 19 | | | 31·1 |
| | 23 | | | 32·4 |
| **Piazzi II. 255.** | | | | |
| Jan. | 4 | +77 | 8 | 38·1 |
| Nov. | 23 | | | 39·0 |
| | 29 | | | 38·6 |
| **Piazzi II. 255 S.P.** | | | | |
| Apr. | 26 | +77 | 8 | 36·9 |
| May | 12 | | | 37·1 |
| | 21 | | | 37·7 |
| **ω Persei.** | | | | |
| Nov. | 30 | +39 | 0 | 22·5 |
| Dec. | 10 | | | 22·9 |
| | 12 | | | 22·9 |
| **Piazzi III. 7.** | | | | |
| Dec. | 12 | +65 | 4 | 1·7 |
| | 13 | | | 2·1 |
| | 17 | | | 2·4 |
| **31 Persei.** | | | | |
| Nov. | 30 | +49 | 30 | 40·5 |
| Dec. | 23 | | | 41·2 |
| | 24 | | | 40·7 |
| **Piazzi III. 23.** | | | | |
| Dec. | 10 | +33 | 38 | 23·0 |
| | 12 | | | 24·5 |
| | 13 | | | 26·0 |
| **A.S.C. 359.** | | | | |
| Jan. | 6 | +28 | 28 | 15·8 |
| **Piazzi III. 28.** | | | | |
| Dec. | 17 | +48 | 29 | 50·8 |
| | 23 | | | 50·8 |
| | 24 | | | 50·6 |

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| **32 Persei.** | | | | |
| Dec. | 12 | +42 | 45 | 13·1 |
| | 27 | | | 10·7 |
| **χ¹ Ceti.** | | | | |
| Nov. | 23 | + 2 | 47 | 12·1 |
| | 29 | | | 12·7 |
| | 30 | | | 12·1 |
| **Piazzi III. 27.** | | | | |
| Dec. | 13 | +64 | 0 | 52·1 |
| **χ² Ceti.** | | | | |
| Nov. | 29 | + 3 | 6 | 9·0 |
| | 30 | | | 10·0 |
| Dec. | 10 | | | 10·3 |
| **α Persei.** | | | | |
| Jan. | 6 | +49 | 17 | 34·2 |
| Mar. | 1 | | | 34·3 |
| | 9 | | | 36·0 |
| | 10 | | | 33·9 |
| | 11 | | | 35·0 |
| **A.S.C. 371.** | | | | |
| Mar. | 9 | +59 | 22 | 59·2 |
| | 10 | | | 58·7 |
| | 19 | | | 59·0 |
| **A.S.C. 373.** | | | | |
| Mar. | 9 | +58 | 19 | 26·6 |
| | 10 | | | 27·0 |
| Nov. | 29 | | | 26·1 |
| **Piazzi III. 57.** | | | | |
| Dec. | 10 | +54 | 53 | 56·1 |
| | 12 | | | 54·8 |
| | 13 | | | 56·4 |
| **34 Persei.** | | | | |
| Dec. | 17 | +48 | 57 | 21·2 |
| | 22 | | | 21·4 |
| | 23 | | | 21·3 |

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| **σ Persei.** | | | | |
| Jan. | 6 | +47 | 26 | 38·5 |
| Nov. | 29 | | | 37·3 |
| **36 Persei.** | | | | |
| Nov. | 29 | +45 | 30 | 55·8 |
| Dec. | 10 | | | 57·7 |
| | 12 | | | 56·9 |
| **Piazzi III. 94.** | | | | |
| Nov. | 29 | +62 | 41 | 48·6 |
| Dec. | 10 | | | 49·4 |
| | 12 | | | 50·6 |
| **Piazzi III. 104.** | | | | |
| Dec. | 23 | +37 | 3 | 52·6 |
| | 24 | | | 51·1 |
| **12 Tauri.** | | | | |
| Jan. | 6 | + 2 | 32 | 20·0 |
| Nov. | 29 | | | 19·2 |
| Dec. | 13 | | | 21·0 |
| **δ Persei.** | | | | |
| Jan. | 4 | +47 | 16 | 35·2 |
| **Piazzi III. 105.** | | | | |
| Dec. | 10 | +62 | 50 | 18·5 |
| | 26 | | | 18·4 |
| | 27 | | | 18·8 |
| **22 Eridani.** | | | | |
| Dec. | 17 | − 5 | 43 | 30·2 |
| | 18 | | | 29·3 |
| | 19 | | | 29·7 |
| **Piazzi III. 111.** | | | | |
| Dec. | 23 | +70 | 50 | 8·7 |
| | 24 | | | 9·8 |
| **A.S.C. 400.** | | | | |
| Mar. | 9 | +31 | 46 | 56·7 |
| | 10 | | | 55·8 |
| | 11 | | | 56·8 |

| δ Eridani. | | ° | ′ | ″ |
|---|---|---|---|---|
| Nov. | 29 | −10 | 18 | 9·0 |
| Dec. | 17 | | | 7·8 |
| | 18 | | | 6·0 |

| A.S.C. 407. | | | | |
|---|---|---|---|---|
| Dec. | 17 | −10 | 59 | 23·4 |
| | 24 | | | 23·9 |
| | 27 | | | 22·2 |

| Piazzi III. 137. | | | | |
|---|---|---|---|---|
| Dec. | 23 | +24 | 3 | 21·1 |

| 22 Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 11 | +24 | 1 | 47·1 |
| Dec. | 10 | | | 47·7 |

| 29 Tauri. | | | | |
|---|---|---|---|---|
| Dec. | 13 | + 5 | 33 | 4·0 |

| π Eridani. | | | | |
|---|---|---|---|---|
| Nov. | 29 | −12 | 36 | 6·5 |
| Dec. | 18 | | | 3·4 |
| | 24 | | | 3·3 |

| A.S.C. 416. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +22 | 55 | 53·5 |
| | 27 | | | 50·5 |

| 42 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 10 | +32 | 36 | 6·7 |
| | 23 | | | 5·5 |

| Piazzi III. 177. | | | | |
|---|---|---|---|---|
| Dec. | 23 | +62 | 36 | 3·1 |
| | 24 | | | 3·4 |
| | 27 | | | 3·4 |

| Piazzi III. 160. | | | | |
|---|---|---|---|---|
| Dec. | 10 | +80 | 14 | 54·5 |
| | 31 | | | 54·6 |

| 30 Eridani. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 11 | − 5 | 50 | 12·8 |
| Dec. | 17 | | | 14·1 |

| 32 Eridani. | | | | |
|---|---|---|---|---|
| Dec. | 17 | − 3 | 25 | 33·5 |
| | 18 | | | 34·5 |
| | 24 | | | 33·9 |

| ι Persei. | | | | |
|---|---|---|---|---|
| Mar. | 9 | +39 | 32 | 49·1 |
| | 10 | | | 48·7 |
| | 11 | | | 49·1 |

| ξ Persei. | | | | |
|---|---|---|---|---|
| Jan. | 11 | +35 | 19 | 50·9 |
| | 17 | | | 50·6 |
| Dec. | 13 | | | 52·2 |

| $\gamma^1$ Eridani. | | | | |
|---|---|---|---|---|
| Mar. | 10 | −13 | 57 | 42·8 |
| | 11 | | | 40·6 |
| Dec. | 16 | | | 43·5 |
| | 17 | | | 42·8 |
| | 18 | | | 43·9 |

| Piazzi III. 208. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +58 | 42 | 32·8 |
| | 23 | | | 31·0 |
| | 24 | | | 31·4 |

| ν Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 6 | + 5 | 32 | 46·7 |

| λ Persei. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +49 | 54 | 57·5 |
| | 16 | | | 56·3 |
| | 17 | | | 55·5 |

| 50 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +37 | 37 | 14·2 |
| | 17 | | | 11·4 |
| | 23 | | | 11·8 |

| Groombridge 784. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 8 | +75 | 42 | 15·1 |
| | 17 | | | 16·5 |

| Groombridge 784 S.P. | | | | |
|---|---|---|---|---|
| May | 12 | +75 | 42 | 12·1 |
| | 27 | | | 13·4 |
| June | 6 | | | 14·2 |

| ο Eridani. | | | | |
|---|---|---|---|---|
| Jan. | 6 | − 7 | 15 | 13·7 |

| Piazzi IV. 7. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +53 | 12 | 29·3 |

| 46 Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 8 | + 7 | 18 | 26·0 |
| | 17 | | | 25·5 |
| | 19 | | | 25·5 |

| 47 Tauri. | | | | |
|---|---|---|---|---|
| Dec. | 16 | + 8 | 51 | 28·5 |
| | 23 | | | 29·4 |
| | 24 | | | 29·3 |

| A.S.C. 467. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +49 | 53 | 59·8 |
| | 22 | | | 59·7 |

| μ Tauri. | | | | |
|---|---|---|---|---|
| Dec. | 16 | + 8 | 29 | 29·6 |
| | 18 | | | 30·4 |
| | 23 | | | 30·4 |

| 39 Eridani. | | | | |
|---|---|---|---|---|
| Dec. | 24 | −10 | 39 | 9·8 |
| | 26 | | | 10·5 |
| | 27 | | | 11·2 |

| Piazzi IV. 22. | | | | |
|---|---|---|---|---|
| Dec. | 31 | +60 | 21 | 4·9 |

| 53 Persei. | | ° | ′ | ″ |
|---|---|---|---|---|
| Dec. | 13 | +46 | 6 | 53·6 |
| | 16 | | | 51·8 |
| | 23 | | | 51·9 |

| 54 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 26 | +34 | 10 | 45·6 |
| | 27 | | | 44·4 |
| | 31 | | | 45·0 |

| 55 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +33 | 45 | 32·0 |
| | 16 | | | 31·2 |
| | 22 | | | 31·1 |

| $\upsilon^1$ Tauri. | | | | |
|---|---|---|---|---|
| Dec. | 16 | +22 | 26 | 58·3 |

| 58 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +40 | 55 | 61·1 |
| | 22 | | | 60·3 |
| | 23 | | | 59·0 |

| 88 Tauri. | | | | |
|---|---|---|---|---|
| Jan. | 19 | + 9 | 49 | 51·4 |
| | 20 | | | 51·7 |
| | 25 | | | 52·6 |

| 2 Camelopardi. | | | | |
|---|---|---|---|---|
| Dec. | 13 | +53 | 9 | 15·3 |
| | 26 | | | 13·2 |
| | 27 | | | 13·4 |

| 3 Camelopardi. | | | | |
|---|---|---|---|---|
| Dec. | 31 | +52 | 45 | 25·0 |

| $\nu^2$ Eridani. | | | | |
|---|---|---|---|---|
| Dec. | 18 | − 3 | 40 | 48·7 |
| | 23 | | | 48·9 |
| | 24 | | | 48·1 |

| 49 Eridani. | | | | |
|---|---|---|---|---|
| Jan. | 6 | + 0 | 40 | 23·6 |
| | 8 | | | 24·3 |

| 51 Eridani. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 20 | − 2 | 47 | 41·6 |
| | 25 | | | 40·3 |
| Dec. | 16 | | | 40·1 |

| 59 Persei. | | | | |
|---|---|---|---|---|
| Dec. | 22 | +43 | 3 | 25·1 |
| | 23 | | | 25·3 |
| | 24 | | | 24·2 |

| A.S.C. 542. | | | | |
|---|---|---|---|---|
| Jan. | 6 | −14 | 40 | 11·3 |
| | 8 | | | 9·6 |

| τ Tauri. | | | | |
|---|---|---|---|---|
| Dec. | 16 | +22 | 38 | 52·3 |

| 4 Camelopardi. | | | | |
|---|---|---|---|---|
| Dec. | 23 | +56 | 28 | 4·2 |
| | 24 | | | 4·2 |
| | 26 | | | 4·7 |

| A.S.C. 547. | | | | |
|---|---|---|---|---|
| Jan. | 6 | +10 | 50 | 47·6 |
| | 8 | | | 46·8 |
| | 17 | | | 47·4 |

| Piazzi IV. 170. | | | | |
|---|---|---|---|---|
| Dec. | 16 | +63 | 13 | 31·9 |
| | 23 | | | 32·6 |
| | 24 | | | 33·3 |

| 1 Aurigæ. | | | | |
|---|---|---|---|---|
| Dec. | 23 | +37 | 12 | 9·2 |
| | 24 | | | 9·2 |
| | 26 | | | 8·3 |

| 1 Orionis. | | | | |
|---|---|---|---|---|
| Jan. | 6 | + 6 | 40 | 48·2 |
| | 8 | | | 47·1 |

| Star | Month | Day | ° | ′ | ″ |
|---|---|---|---|---|---|
| 59 Eridani. | Jan. | 17 | −16 | 36 | 48·2 |
| | | 20 | | | 47·8 |
| | | 27 | | | 49·2 |
| $\pi^1$ Orionis. | Jan. | 29 | + 8 | 37 | 25·0 |
| | Dec. | 16 | | | 25·3 |
| | | 18 | | | 26·4 |
| 3 Orionis. | Dec. | 23 | + 5 | 19 | 48·5 |
| | | 24 | | | 48·6 |
| | | 26 | | | 46·5 |
| 60 Eridani. | Dec. | 27 | −16 | 29 | 43·5 |
| 7 Camelopardi. | Dec. | 16 | +53 | 29 | 27·1 |
| | | 31 | | | 26·7 |
| 5 Orionis. | Dec. | 18 | + 2 | 14 | 32·8 |
| | | 23 | | | 32·2 |
| | | 24 | | | 32·3 |
| ω Eridani. | Dec. | 26 | − 5 | 43 | 16·8 |
| | | 27 | | | 18·4 |
| 8 Orionis. | Dec. | 18 | + 2 | 10 | 37·7 |
| | | 23 | | | 37·0 |
| | | 24 | | | 38·2 |
| 7 Orionis. | Dec. | 26 | + 9 | 53 | 38·9 |
| | | 27 | | | 39·9 |
| | | 31 | | | 39·4 |

| Star | Month | Day | ° | ′ | ″ |
|---|---|---|---|---|---|
| ω Aurigæ. | Dec. | 16 | +37 | 38 | 39·9 |
| | | 17 | | | 38·6 |
| | | 18 | | | 39·2 |
| 62 Eridani. | Jan. | 17 | − 5 | 25 | 34·8 |
| | | 20 | | | 35·0 |
| | | 22 | | | 34·4 |
| 5 Aurigæ. | Dec. | 23 | +39 | 8 | 53·8 |
| | | 24 | | | 54·6 |
| | | 27 | | | 53·9 |
| 10 Orionis. | Jan. | 27 | + 1 | 27 | 59·4 |
| ε Aurigæ. | Jan. | 29 | +43 | 34 | 55·6 |
| | Feb. | 2 | | | 55·4 |
| | Apr. | 2 | | | 55·1 |
| ζ Aurigæ. | Feb. | 4 | +40 | 50 | 17·1 |
| | Dec. | 17 | | | 16·0 |
| | | 18 | | | 17·2 |
| 63 Eridani. | Dec. | 24 | −10 | 29 | 56·8 |
| | | 26 | | | 57·3 |
| | | 27 | | | 57·2 |
| 64 Eridani. | Jan. | 6 | −12 | 46 | 28·5 |
| | | 8 | | | 30·5 |
| | | 17 | | | 27·0 |
| Piazzi IV. 254. | Dec. | 23 | +73 | 43 | 46·9 |
| | | 31 | | | 46·0 |
| ι Tauri. | Jan. | 22 | +21 | 21 | 29·7 |

| Star | Month | Day | ° | ′ | ″ |
|---|---|---|---|---|---|
| 9 Aurigæ. | Dec. | 23 | +51 | 22 | 46·7 |
| | | 24 | | | 46·7 |
| | | 26 | | | 46·2 |
| η Aurigæ. | Jan. | 17 | +41 | 0 | 47·8 |
| | | 20 | | | 47·5 |
| | | 22 | | | 48·0 |
| Piazzi IV. 269. | Dec. | 24 | +79 | 1 | 57·2 |
| | | 27 | | | 56·2 |
| | | 31 | | | 55·6 |
| 66 Eridani. | Jan. | 27 | − 4 | 52 | 17·5 |
| | | 29 | | | 18·5 |
| | Dec. | 18 | | | 19·1 |
| Piazzi IV. 294. | Dec. | 31 | +46 | 45 | 33·2 |
| 14 Orionis. | Dec. | 24 | + 8 | 17 | 14·5 |
| | | 26 | | | 13·1 |
| | | 27 | | | 15·2 |
| β Eridani. | Jan. | 22 | − 5 | 17 | 42·9 |
| | Feb. | 2 | | | 42·6 |
| | Dec. | 18 | | | 43·9 |
| 68 Eridani. | Jan. | 6 | − 4 | 39 | 59·1 |
| Groombridge 931. | Jan. | 6 | +78 | 14 | 16·6 |
| | | 8 | | | 16·7 |
| | | 17 | | | 16·7 |

| Star | Month | Day | ° | ′ | ″ |
|---|---|---|---|---|---|
| Groombridge 931 S.P. | June | 22 | +78 | 14 | 18·3 |
| | | 28 | | | 14·3 |
| | | 29 | | | 14·8 |
| λ Eridani. | Jan. | 8 | − 8 | 57 | 41·4 |
| | | 17 | | | 40·9 |
| | | 20 | | | 40·4 |
| μ Aurigæ. | Feb. | 2 | +38 | 17 | 25·3 |
| | | 3 | | | 25·1 |
| | | 4 | | | 25·3 |
| Piazzi IV. 311. | Jan. | 20 | +78 | 8 | 16·9 |
| α Aurigæ. | Jan. | 15 | +45 | 49 | 44·6 |
| | | 19 | | | 46·5 |
| | | 24 | | | 46·9 |
| | | 25 | | | 47·1 |
| | Mar. | 29 | | | 47·5 |
| $\varrho^1$ Orionis. | Dec. | 18 | + 2 | 40 | 5·8 |
| | | 24 | | | 6·2 |
| | | 26 | | | 5·3 |
| μ Leporis. | Dec. | 26 | −16 | 23 | 47·4 |
| | | 27 | | | 48·1 |
| | | 31 | | | 47·9 |
| ϰ Leporis. | Dec. | 27 | −13 | 7 | 55·2 |
| | | 31 | | | 57·3 |
| 18 Orionis. | Feb. | 3 | +11 | 9 | 29·2 |
| | Dec. | 18 | | | 28·6 |
| | | 24 | | | 28·9 |

| Star | Month | Day | ° | ′ | ″ |
|---|---|---|---|---|---|
| λ Aurigæ. | Feb. | 1 | +39 | 57 | 5·0 |
| | | 2 | | | 4·3 |
| | Dec. | 17 | | | 4·1 |
| 19 Aurigæ. | Dec. | 27 | +33 | 47 | 10·9 |
| | | 31 | | | 10·5 |
| 16 Camelopardi. | Dec. | 26 | +57 | 22 | 55·7 |
| A.S.C. 626. | Jan. | 6 | −13 | 41 | 29·4 |
| | | 8 | | | 33·3 |
| | | 20 | | | 33·1 |
| 21 Orionis. | Jan. | 24 | + 2 | 25 | 35·3 |
| | | 27 | | | 37·1 |
| | | 29 | | | 36·5 |
| λ Leporis. | Jan. | 6 | −13 | 20 | 37·9 |
| ν Leporis. | Jan. | 27 | −12 | 28 | 54·5 |
| | | 29 | | | 55·6 |
| | Feb. | 1 | | | 56·1 |
| 22 Orionis. | Jan. | 8 | − 0 | 32 | 36·1 |
| | | 20 | | | 35·9 |
| σ Aurigæ. | Dec. | 26 | +37 | 13 | 50·0 |
| | | 27 | | | 50·2 |
| | | 31 | | | 50·3 |
| 23 Orionis. | Feb. | 2 | + 3 | 23 | 13·8 |
| | | 3 | | | 14·4 |
| | Dec. | 17 | | | 14·0 |

| | | | ° | ′ | ″ |
|---|---|---|---|---|---|
| ξ Leporis. | Dec. | 18 | −14 | 4 | 49·4 |
| | | 26 | | | 47·1 |
| | | 27 | | | 47·5 |
| β Tauri. | Jan. | 8 | +28 | 28 | 3·5 |
| | | 17 | | | 3·8 |
| | | 19 | | | 2·8 |
| | | 20 | | | 3·3 |
| | | 22 | | | 3·3 |
| | Dec. | 17 | | | 2·4 |
| 29 Orionis. | Dec. | 31 | − 7 | 57 | 28·1 |
| η Orionis. | Apr. | 2 | − 2 | 32 | 51·9 |
| φ Aurigæ. | Feb. | 2 | +34 | 20 | 2·4 |
| | | 3 | | | 2·9 |
| | Dec. | 27 | | | 2·9 |
| ψ² Orionis. | Dec. | 17 | + 2 | 57 | 13·4 |
| | | 18 | | | 13·2 |
| | | 26 | | | 12·7 |
| 18 Camelopardi. | Dec. | 31 | +57 | 6 | 0·4 |
| A.S.C. 658. | Jan. | 20 | −12 | 2 | 18·2 |
| | | 27 | | | 15·6 |
| | | 29 | | | 16·4 |
| 31 Orionis. | Jan. | 6 | − 1 | 13 | 18·5 |
| | | 8 | | | 18·8 |
| | | 17 | | | 19·4 |
| 32 Orionis. | Feb. | 1 | + 5 | 49 | 19·3 |
| | | 2 | | | 19·5 |
| | | 3 | | | 19·3 |
| 33 Orionis. | Dec. | 18 | + 3 | 9 | 60·7 |
| | | 26 | | | 59·7 |
| | | 27 | | | 61·6 |
| δ Orionis. | Jan. | 8 | − 0 | 25 | 18·1 |
| | | 17 | | | 16·8 |
| | | 20 | | | 17·2 |
| | | 24 | | | 17·0 |
| | | 25 | | | 15·9 |
| υ Orionis. | Feb. | 3 | − 7 | 25 | 22·0 |
| | Dec. | 31 | | | 22·2 |
| 38 Orionis. | Dec. | 18 | + 3 | 39 | 14·0 |
| | | 26 | | | 12·7 |
| | | 27 | | | 12·7 |
| φ¹ Orionis. | Feb. | 2 | + 9 | 22 | 37·5 |
| λ Orionis, preceding. | Apr. | 2 | + 9 | 49 | 22·6 |
| | Dec. | 31 | | | 23·0 |
| 42 Orionis. | Dec. | 27 | − 4 | 56 | 48·3 |
| | | 31 | | | 48·9 |
| ι Orionis. | Apr. | 2 | − 6 | 1 | 4·7 |
| | Dec. | 18 | | | 6·5 |
| | | 26 | | | 6·8 |
| ε Orionis. | Jan. | 8 | − 1 | 18 | 29·5 |
| | | 17 | | | 28·7 |
| | | 20 | | | 29·6 |
| | | 24 | | | 28·2 |
| | | 25 | | | 28·2 |
| ζ Tauri. | Dec. | 17 | +21 | 2 | 22·1 |
| φ² Orionis. | Feb. | 2 | + 9 | 11 | 57·5 |
| σ Orionis. | Jan. | 6 | − 2 | 41 | 47·4 |
| | | 17 | | | 47·2 |
| | | 20 | | | 47·7 |
| ω Orionis. | Jan. | 24 | + 4 | 1 | 34·4 |
| | | 25 | | | 34·3 |
| | | 27 | | | 34·2 |
| A.S.C. 694. | Jan. | 29 | − 3 | 39 | 28·7 |
| | Feb. | 1 | | | 28·7 |
| | | 2 | | | 28·8 |
| 26 Camelopardi. | Dec. | 31 | +56 | 2 | 28·2 |
| 51 Orionis. | Feb. | 2 | + 1 | 23 | 35·0 |
| | | 3 | | | 34·6 |
| | | 12 | | | 33·9 |
| 29 Camelopardi. | Dec. | 31 | +56 | 51 | 26·3 |
| 52 Orionis. | Jan. | 6 | + 6 | 23 | 35·1 |
| ζ Leporis. | Feb. | 2 | −14 | 53 | 5·7 |
| | | 3 | | | 5·6 |
| | | 11 | | | 5·3 |
| κ Orionis. | Feb. | 12 | − 9 | 43 | 49·9 |
| | Apr. | 6 | | | 51·0 |
| | Dec. | 17 | | | 50·7 |
| ν Aurigæ. | Jan. | 15 | +39 | 5 | 41·5 |
| | Dec. | 18 | | | 41·0 |
| | | 31 | | | 40·0 |
| 134 Tauri. | Jan. | 17 | +12 | 35 | 43·3 |
| | | 20 | | | 43·3 |
| | | 22 | | | 43·9 |
| 31 Camelopardi. | Feb. | 4 | +59 | 50 | 33·2 |
| ξ Aurigæ. | Jan. | 15 | +55 | 39 | 39·8 |
| | | 24 | | | 40·6 |
| | | 25 | | | 40·9 |
| 55 Orionis. | Jan. | 27 | − 7 | 33 | 53·7 |
| | | 29 | | | 55·1 |
| | Feb. | 1 | | | 53·6 |
| 56 Orionis. | Feb. | 2 | + 1 | 48 | 40·0 |
| | | 3 | | | 41·2 |
| | | 4 | | | 40·5 |
| α Orionis. | Jan. | 8 | + 7 | 22 | 18·9 |
| | | 17 | | | 18·1 |
| | | 19 | | | 16·9 |
| | | 20 | | | 17·9 |
| | | 22 | | | 19·2 |
| δ Aurigæ. | Jan. | 15 | +54 | 15 | 48·9 |
| | Feb. | 2 | | | 49·0 |
| | | 3 | | | 49·2 |
| π Aurigæ. | Jan. | 15 | +45 | 54 | 53·0 |
| | | 29 | | | 53·2 |
| | Feb. | 2 | | | 52·8 |
| 59 Orionis. | Jan. | 6 | + 1 | 48 | 57·6 |
| | | 8 | | | 58·1 |
| | | 17 | | | 57·6 |
| 60 Orionis. | Jan. | 20 | + 0 | 31 | 59·0 |
| | | 25 | | | 59·7 |
| | | 27 | | | 59·3 |
| 2 Monocerotis. | Feb. | 3 | − 9 | 34 | 24·6 |
| | | 4 | | | 20·7 |
| | | 11 | | | 24·4 |
| μ Orionis. | Feb. | 2 | + 9 | 38 | 29·7 |
| | | 12 | | | 30·3 |
| | Dec. | 18 | | | 31·3 |
| 3 Monocerotis. | Feb. | 3 | −10 | 36 | 15·4 |
| | | 11 | | | 15·9 |
| 1 Geminorum. | Jan. | 24 | +23 | 15 | 57·0 |
| 66 Orionis. | Feb. | 2 | + 4 | 9 | 44·5 |
| | | 3 | | | 44·4 |
| | | 4 | | | 44·5 |

| ϱ Leporis. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Feb. | 11 | −16 | 28 | 42·4 |
| | 12 | | | 39·5 |
| Dec. | 17 | | | 41·8 |

| θ Leporis. | | | | |
|---|---|---|---|---|
| Feb. | 3 | −14 | 55 | 30·8 |
| | 4 | | | 33·8 |
| | 15 | | | 30·7 |

| τ Leporis. | | | | |
|---|---|---|---|---|
| Jan. | 6 | −19 | 9 | 5·1 |
| | 17 | | | 3·8 |

| 4 Monocerotis. | | | | |
|---|---|---|---|---|
| Jan. | 25 | −11 | 7 | 38·6 |
| | 29 | | | 37·3 |
| Feb. | 11 | | | 36·5 |

| 40 Camelopardi. | | | | |
|---|---|---|---|---|
| Jan. | 15 | +60 | 1 | 59·7 |
| | 20 | | | 59·1 |
| | 24 | | | 60·4 |

| 1 Lyncis. | | | | |
|---|---|---|---|---|
| Jan. | 15 | +61 | 33 | 22·6 |
| Feb. | 3 | | | 22·4 |
| | 4 | | | 22·8 |

| 2 Lyncis. | | | | |
|---|---|---|---|---|
| Jan. | 15 | +59 | 3 | 30·6 |
| Feb. | 3 | | | 31·0 |
| | 4 | | | 30·5 |

| 73 Orionis. | | | | |
|---|---|---|---|---|
| Feb. | 11 | +12 | 35 | 43·2 |
| | 12 | | | 42·1 |
| | 15 | | | 41·1 |

| 5 Monocerotis. | | | | |
|---|---|---|---|---|
| Dec. | 17 | −6 | 13 | 53·1 |

| 74 Orionis. | | | | |
|---|---|---|---|---|
| Mar. | 19 | +12 | 18 | 35·8 |
| Dec. | 18 | | | 38·2 |

| 75 Orionis. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Jan. | 17 | +9 | 59 | 40·3 |
| | 20 | | | 39·0 |
| | 24 | | | 40·6 |

| 7 Monocerotis. | | | | |
|---|---|---|---|---|
| Feb. | 1 | −7 | 45 | 40·2 |
| | 3 | | | 41·0 |
| | 4 | | | 39·4 |

| μ Geminorum. | | | | |
|---|---|---|---|---|
| Jan. | 24 | +22 | 35 | 17·6 |
| | 25 | | | 18·3 |
| | 27 | | | 18·6 |
| | 28 | | | 18·2 |
| | 29 | | | 17·9 |
| Mar. | 19 | | | 17·7 |
| Apr. | 16 | | | 18·3 |
| Dec. | 18 | | | 18·4 |

| A.S.C. 793. | | | | |
|---|---|---|---|---|
| Feb. | 3 | +3 | 50 | 19·3 |
| | 11 | | | 20·4 |
| | 12 | | | 19·0 |

| 8 Monocerotis. | | | | |
|---|---|---|---|---|
| Feb. | 4 | +4 | 40 | 3·8 |
| | 15 | | | 3·1 |
| Mar. | 19 | | | 4·5 |

| Groombridge 1151. | | | | |
|---|---|---|---|---|
| Jan. | 17 | +78 | 6 | 15·9 |
| | 20 | | | 15·3 |
| | 24 | | | 14·9 |

| Groombridge 1151 S.P. | | | | |
|---|---|---|---|---|
| June | 29 | +78 | 6 | 13·1 |
| July | 14 | | | 14·4 |
| | 15 | | | 12·3 |

| 77 Orionis. | | | | |
|---|---|---|---|---|
| Jan. | 31 | +0 | 23 | 20·2 |
| Feb. | 1 | | | 20·1 |
| | 3 | | | 20·8 |

| 78 Orionis. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Jan. | 25 | −0 | 11 | 9·7 |
| | 27 | | | 9·7 |
| | 29 | | | 11·2 |

| 10 Monocerotis. | | | | |
|---|---|---|---|---|
| Jan. | 17 | −4 | 40 | 9·6 |
| | 18 | | | 10·0 |
| | 20 | | | 10·2 |

| 12 Monocerotis. | | | | |
|---|---|---|---|---|
| Feb. | 4 | +4 | 57 | 50·9 |
| | 11 | | | 51·0 |
| | 15 | | | 51·0 |

| 51 (Hev.) Cephei. | | | | |
|---|---|---|---|---|
| Jan. | 20 | +87 | 15 | 40·9 |
| | 25 | | | 42·0 |
| | 27 | | | 41·5 |
| | 29 | | | 41·2 |
| | 31 | | | 41·4 |

| 51 (Hev.) Cephei S.P. | | | | |
|---|---|---|---|---|
| July | 15 | +87 | 15 | 40·0 |
| | 16 | | | 41·0 |
| | 21 | | | 39·7 |
| | 23 | | | 39·8 |
| | 27 | | | 39·4 |

| 14 Monocerotis. | | | | |
|---|---|---|---|---|
| Feb. | 4 | +7 | 41 | 21·4 |
| | 11 | | | 23·8 |
| | 15 | | | 22·7 |

| ν² Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 17 | −19 | 7 | 29·7 |
| | 20 | | | 31·1 |
| | 25 | | | 32·0 |

| ν³ Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 29 | −18 | 6 | 17·5 |
| | 31 | | | 16·1 |
| Feb. | 2 | | | 17·5 |

| 55 Aurigæ. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Jan. | 15 | +44 | 40 | 6·5 |
| Feb. | 11 | | | 7·1 |
| | 15 | | | 6·8 |

| 15 Monocerotis. | | | | |
|---|---|---|---|---|
| Mar. | 19 | +10 | 2 | 10·7 |

| ε Geminorum. | | | | |
|---|---|---|---|---|
| Mar. | 19 | +25 | 16 | 51·7 |
| | 20 | | | 53·0 |
| Dec. | 18 | | | 52·4 |

| 42 Camelopardi. | | | | |
|---|---|---|---|---|
| Jan. | 15 | +67 | 44 | 5·3 |
| Feb. | 11 | | | 6·1 |
| | 15 | | | 5·5 |

| 43 Camelopardi. | | | | |
|---|---|---|---|---|
| Jan. | 15 | +69 | 3 | 37·4 |
| Dec. | 18 | | | 37·6 |

| 16 Monocerotis. | | | | |
|---|---|---|---|---|
| Feb | 11 | +8 | 44 | 56·7 |
| | 15 | | | 56·4 |
| Mar. | 19 | | | 55·7 |

| 18 Monocerotis. | | | | |
|---|---|---|---|---|
| Mar. | 19 | +2 | 34 | 47·1 |
| Dec. | 18 | | | 49·1 |

| ψ² Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 17 | −14 | 15 | 39·4 |
| | 20 | | | 38·7 |
| | 25 | | | 39·1 |

| 15 Lyncis. | | | | |
|---|---|---|---|---|
| Jan. | 27 | +58 | 37 | 14·5 |
| | 29 | | | 14·5 |
| | 31 | | | 14·6 |

| θ Canis Majoris. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Feb. | 1 | −11 | 50 | 40·8 |
| | 11 | | | 41·5 |
| Mar. | 19 | | | 42·3 |

| μ Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 31 | −13 | 50 | 35·6 |
| Feb. | 11 | | | 35·4 |
| | 15 | | | 36·4 |

| ι Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 20 | −16 | 51 | 12·9 |
| | 25 | | | 12·7 |
| | 29 | | | 11·6 |

| ε Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 18 | −28 | 45 | 41·1 |
| | 20 | | | 39·3 |
| | 25 | | | 36·2 |
| | 27 | | | 37·8 |
| | 29 | | | 41·9 |

| 19 Monocerotis. | | | | |
|---|---|---|---|---|
| Jan. | 29 | −4 | 0 | 53·4 |
| | 31 | | | 53·4 |
| Feb. | 11 | | | 54·6 |

| γ Canis Majoris. | | | | |
|---|---|---|---|---|
| Jan. | 20 | −15 | 24 | 15·8 |
| | 25 | | | 12·5 |
| | 27 | | | 16·3 |

| 22 Monocerotis. | | | | |
|---|---|---|---|---|
| Jan. | 27 | −0 | 14 | 8·1 |
| | 29 | | | 9·7 |

| Piazzi VI. 334. | | | | |
|---|---|---|---|---|
| Jan. | 27 | +81 | 11 | 55·8 |
| | 29 | | | 55·5 |
| | 31 | | | 55·5 |

| Piazzi VI. 334 S.P. | | | | |
|---|---|---|---|---|
| July | 9 | +81 | 11 | 54·6 |
| | 13 | | | 53·3 |
| | 14 | | | 54·6 |

| | | | ° | ′ | ″ |
|---|---|---|---|---|---|
| δ Geminorum. | Jan. | 25 | +22 | 16 | 2·8 |
| | Mar. | 21 | | | 3·6 |
| 65 Aurigæ. | Jan. | 31 | +37 | 3 | 3·3 |
| | Feb. | 1 | | | 3·1 |
| | | 5 | | | 2·4 |
| β Canis Minoris. | Jan. | 25 | + 8 | 36 | 8·8 |
| | | 27 | | | 9·1 |
| η Canis Minoris. | Jan. | 29 | + 7 | 15 | 29·7 |
| | | 31 | | | 30·0 |
| | Feb. | 1 | | | 31·1 |
| γ Canis Minoris. | Feb. | 5 | + 9 | 14 | 24·9 |
| | | 11 | | | 25·5 |
| | | 15 | | | 24·5 |
| δ¹ Canis Minoris. | Feb. | 5 | + 2 | 14 | 40·1 |
| | | 15 | | | 40·7 |
| | | 26 | | | 38·4 |
| α² Geminorum. | Jan. | 27 | +32 | 13 | 43·0 |
| | | 29 | | | 42·5 |
| | | 31 | | | 42·2 |
| | Feb. | 1 | | | 42·2 |
| | | 14 | | | 42·2 |
| 26 Monocerotis. | Jan. | 31 | − 9 | 11 | 14·0 |
| | Feb. | 1 | | | 13·1 |
| ϰ Geminorum. | Jan. | 25 | +24 | 46 | 17·1 |
| β Geminorum. | Jan. | 31 | +28 | 24 | 7·7 |
| | Feb. | 1 | | | 8·0 |
| | | 5 | | | 7·7 |
| | | 11 | | | 8·8 |
| | | 14 | | | 8·3 |
| | Mar. | 21 | | | 7·1 |
| 6 Argus. | Jan. | 31 | −16 | 49 | 46·4 |
| ζ Canis Minoris. | Feb. | 1 | + 2 | 9 | 55·5 |
| | | 5 | | | 56·1 |
| | | 11 | | | 56·2 |
| 9 Argus. | Feb. | 12 | −13 | 28 | 57·4 |
| | | 15 | | | 56·4 |
| | | 26 | | | 56·5 |
| 10 Argus. | Mar. | 9 | −14 | 26 | 37·0 |
| A.S.C. 968. | Feb. | 5 | + 9 | 16 | 40·5 |
| | | 11 | | | 40·1 |
| | | 12 | | | 38·5 |
| 13 Argus. | Feb. | 5 | + 2 | 45 | 50·5 |
| | | 11 | | | 51·8 |
| 55 Camelopardi. | Feb. | 5 | +68 | 55 | 48·8 |
| | | 12 | | | 48·5 |
| | | 15 | | | 48·9 |
| 18 Argus. | Feb. | 5 | −13 | 20 | 15·8 |
| | Mar. | 2 | | | 16·5 |
| 19 Argus. | Mar. | 9 | −12 | 27 | 43·3 |
| 20 Argus. | Feb. | 5 | −15 | 18 | 56·1 |
| | Mar. | 2 | | | 55·7 |
| β Cancri. | Feb. | 15 | + 9 | 40 | 5·4 |
| | | 16 | | | 4·9 |
| | | 26 | | | 4·2 |
| 21 Argus. | Feb. | 5 | −15 | 47 | 57·2 |
| | Mar. | 2 | | | 55·8 |
| 31 Lyncis. | Feb. | 15 | +43 | 41 | 20·2 |
| | | 16 | | | 20·0 |
| | | 26 | | | 18·5 |
| 1 Hydræ. | Feb. | 5 | − 3 | 14 | 34·0 |
| | Mar. | 3 | | | 33·5 |
| Groombridge 1431. | Feb. | 15 | +82 | 46 | 55·9 |
| | | 16 | | | 54·9 |
| | | 26 | | | 53·8 |
| Groombridge 1431 S.P. | July | 22 | +82 | 46 | 54·4 |
| | Aug. | 13 | | | 54·1 |
| | | 17 | | | 53·5 |
| A.S.C. 1026. | Mar. | 9 | + 8 | 4 | 30·9 |
| | | 11 | | | 31·4 |
| | | 23 | | | 31·0 |
| 30 Monocerotis. | Oct. | 26 | − 3 | 23 | 42·5 |
| 2 Hydræ. | Feb. | 5 | − 3 | 28 | 19·0 |
| | Mar. | 11 | | | 21·1 |
| | | 23 | | | 18·6 |
| θ Cancri. | Oct. | 26 | +18 | 37 | 26·8 |
| A.S.C. 1044 preceding. | Feb. | 5 | + 7 | 10 | 0·2 |
| | | 15 | | | 1·0 |
| | | 16 | | | 1·1 |
| δ Hydræ. | Feb. | 16 | + 6 | 15 | 0·1 |
| | | 26 | | | 0·7 |
| | Mar. | 2 | | | 2·5 |
| σ Hydræ. | Feb. | 15 | + 3 | 53 | 32·5 |
| | Mar. | 9 | | | 31·6 |
| | | 11 | | | 31·0 |
| 6 Hydræ. | Feb. | 16 | −11 | 55 | 13·4 |
| | | 26 | | | 14·1 |
| | Mar. | 2 | | | 13·2 |
| 9 Hydræ. | Mar. | 2 | −15 | 22 | 43·6 |
| | | 9 | | | 43·2 |
| | | 18 | | | 42·6 |
| η Hydræ. | Feb. | 15 | + 3 | 57 | 43·0 |
| | | 16 | | | 44·2 |
| | | 26 | | | 42·2 |
| ε Hydræ. | Feb. | 15 | + 6 | 59 | 39·1 |
| | | 16 | | | 39·5 |
| | | 18 | | | 39·6 |
| | | 26 | | | 39·2 |
| | Mar. | 2 | | | 39·9 |
| A.S.C. 1075. | Mar. | 9 | − 1 | 19 | 18·6 |
| | | 11 | | | 17·1 |
| ϱ Hydræ. | Mar. | 18 | + 6 | 25 | 2·8 |
| | | 19 | | | 3·1 |
| | | 26 | | | 3·4 |
| 14 Hydræ. | Feb. | 16 | − 2 | 51 | 36·7 |
| | | 18 | | | 36·7 |
| | | 26 | | | 37·6 |
| ϱ¹ Cancri. | Mar. | 2 | +28 | 50 | 48·9 |
| | | 9 | | | 52·0 |
| | | 11 | | | 51·7 |
| ϱ² Cancri. | Feb. | 16 | +28 | 55 | 47·4 |
| | Mar. | 12 | | | 49·0 |
| | | 14 | | | 49·1 |
| ζ Hydræ. | Feb. | 16 | + 6 | 32 | 33·2 |
| | | 18 | | | 35·1 |
| | | 26 | | | 34·9 |
| ω Hydræ. | Feb. | 18 | + 5 | 43 | 12·0 |
| | | 26 | | | 10·7 |
| 18 Ursæ Majoris. | Feb. | 26 | +54 | 40 | 8·6 |
| 21 Hydræ. | Feb. | 18 | − 6 | 27 | 55·2 |
| | Mar. | 2 | | | 56·2 |
| | | 9 | | | 55·0 |
| θ Hydræ. | Mar. | 3 | + 2 | 58 | 40·6 |
| | | 11 | | | 38·6 |
| | | 18 | | | 39·4 |

| 23 Hydræ. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Mar. | 9 | − 5 | 41 | 48·4 |
| | 11 | | | 48·7 |
| | 18 | | | 48·5 |

| 24 Hydræ. | | | | |
|---|---|---|---|---|
| Mar. | 19 | − 8 | 5 | 18·6 |
| | 24 | | | 18·6 |
| | 26 | | | 17·7 |

| 38 Lyncis. | | | | |
|---|---|---|---|---|
| Mar. | 10 | +37 | 28 | 0·5 |
| | 12 | | | 0·6 |
| | 29 | | | 0·7 |

| 40 Lyncis. | | | | |
|---|---|---|---|---|
| Feb. | 18 | +35 | 3 | 23·2 |
| | 26 | | | 22·4 |
| Mar. | 2 | | | 23·0 |

| κ Leonis. | | | | |
|---|---|---|---|---|
| Feb. | 18 | +26 | 51 | 31·2 |
| | 26 | | | 30·4 |
| Mar. | 2 | | | 30·9 |

| 28 Hydræ. | | | | |
|---|---|---|---|---|
| Feb. | 18 | + 4 | 26 | 20·5 |
| Mar. | 2 | | | 21·8 |
| | 9 | | | 20·6 |

| 23 Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Mar. | 10 | +63 | 44 | 50·7 |
| | 12 | | | 51·3 |
| | 18 | | | 51·4 |

| α Hydræ. | | | | |
|---|---|---|---|---|
| Feb. | 18 | − 7 | 58 | 35·4 |
| | 26 | | | 37·6 |
| Mar. | 2 | | | 36·7 |
| | 9 | | | 36·7 |
| | 11 | | | 33·8 |

| 24 Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Mar. | 3 | +70 | 31 | 8·1 |
| | 12 | | | 7·8 |
| | 18 | | | 8·9 |

| τ¹ Hydræ. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Mar. | 11 | − 2 | 4 | 53·1 |
| | 19 | | | 53·1 |
| | 24 | | | 52·9 |

| ξ Leonis. | | | | |
|---|---|---|---|---|
| Jan. | 27 | +11 | 59 | 47·7 |

| τ² Hydræ. | | | | |
|---|---|---|---|---|
| Feb. | 26 | − 0 | 29 | 25·8 |
| Mar. | 2 | | | 26·5 |
| | 9 | | | 26·8 |

| Groombridge 1562. | | | | |
|---|---|---|---|---|
| Feb. | 26 | +79 | 51 | 13·1 |
| Mar. | 2 | | | 14·0 |
| | 9 | | | 14·2 |

| Groombridge 1562 S.P. | | | | |
|---|---|---|---|---|
| Aug. | 20 | +79 | 51 | 13·7 |
| | 22 | | | 13·4 |
| | 30 | | | 13·0 |

| 13 Leonis. | | | | |
|---|---|---|---|---|
| Mar. | 2 | +26 | 37 | 43·8 |
| | 11 | | | 43·8 |
| | 12 | | | 43·8 |

| ο Leonis. | | | | |
|---|---|---|---|---|
| Jan. | 27 | +10 | 36 | 30·1 |
| Feb. | 23 | | | 30·6 |

| κ Hydræ. | | | | |
|---|---|---|---|---|
| Feb. | 26 | +13 | 37 | 5·2 |
| Mar. | 9 | | | 4·8 |
| | 18 | | | 5·8 |

| ι Leonis. | | | | |
|---|---|---|---|---|
| Feb. | 26 | +24 | 29 | 54·6 |
| Mar. | 2 | | | 55·4 |
| | 9 | | | 53·9 |
| | 11 | | | 55·6 |
| | 18 | | | 55·4 |

| 6 Sextantis. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Feb. | 26 | − 3 | 30 | 20·8 |
| Mar. | 11 | | | 18·7 |
| | 12 | | | 19·1 |

| μ Leonis. | | | | |
|---|---|---|---|---|
| Mar. | 22 | +26 | 44 | 52·7 |
| | 26 | | | 51·7 |
| | 29 | | | 52·2 |
| | 30 | | | 52·0 |
| Apr. | 2 | | | 52·3 |

| υ¹ Hydræ. | | | | |
|---|---|---|---|---|
| Mar. | 18 | −14 | 6 | 25·5 |
| | 19 | | | 27·9 |
| | 24 | | | 26·9 |

| 8 Sextantis. | | | | |
|---|---|---|---|---|
| Mar. | 9 | − 7 | 21 | 48·8 |
| | 11 | | | 48·0 |
| | 12 | | | 49·6 |

| π Leonis. | | | | |
|---|---|---|---|---|
| Apr. | 19 | + 8 | 47 | 59·4 |
| | 20 | | | 60·0 |

| 21 Leonis Minoris. | | | | |
|---|---|---|---|---|
| Feb. | 26 | +36 | 0 | 42·0 |
| Mar. | 9 | | | 42·6 |
| | 11 | | | 43·4 |

| 15 Sextantis. | | | | |
|---|---|---|---|---|
| Mar. | 12 | + 0 | 23 | 54·7 |
| | 18 | | | 55·2 |
| | 19 | | | 55·2 |

| α Leonis. | | | | |
|---|---|---|---|---|
| Feb. | 23 | +12 | 44 | 13·2 |
| Apr. | 19 | | | 13·9 |
| | 20 | | | 13·1 |
| Oct. | 27 | | | 13·9 |

| 18 Sextantis. | | | | |
|---|---|---|---|---|
| Feb. | 26 | − 7 | 38 | 28·4 |
| Mar. | 12 | | | 27·7 |
| | 19 | | | 28·6 |

| A.S.C. 1215. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ° |
| Mar. | 22 | − 6 | 32 | 24·0 |
| | 24 | | | 25·2 |
| | 26 | | | 24·5 |

| 21 Sextantis. | | | | |
|---|---|---|---|---|
| Feb. | 26 | − 7 | 12 | 40·8 |
| Mar. | 11 | | | 39·7 |
| | 12 | | | 42·5 |

| λ Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Mar. | 26 | +43 | 41 | 62·2 |
| | 28 | | | 62·4 |
| | 30 | | | 62·2 |
| Apr. | 2 | | | 61·8 |
| | 8 | | | 59·3 |

| 35 Leonis. | | | | |
|---|---|---|---|---|
| Mar. | 19 | +24 | 17 | 10·1 |
| | 22 | | | 10·8 |
| | 24 | | | 9·2 |

| ζ Leonis. | | | | |
|---|---|---|---|---|
| Mar. | 9 | +24 | 12 | 8·5 |
| | 17 | | | 8·1 |
| | 18 | | | 8·4 |

| 22 Sextantis. | | | | |
|---|---|---|---|---|
| Feb. | 26 | − 7 | 16 | 55·8 |
| Mar. | 12 | | | 54·8 |
| | 18 | | | 53·4 |

| γ Leonis. | | | | |
|---|---|---|---|---|
| Mar. | 26 | +20 | 38 | 18·1 |
| | 28 | | | 19·1 |
| | 30 | | | 18·5 |

| Piazzi X. 22. | | | | |
|---|---|---|---|---|
| Mar. | 9 | +83 | 21 | 24·6 |
| | 11 | | | 25·1 |
| | 17 | | | 25·2 |

| Piazzi X. 22 S.P. | | | | |
|---|---|---|---|---|
| Aug. | 21 | +83 | 21 | 24·9 |
| Sept. | 8 | | | 24·9 |
| | 17 | | | 22·9 |

| 26 Sextantis. | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Feb. | 26 | − 0 | 11 | 12·1 |
| Mar. | 11 | | | 8·6 |
| | 12 | | | 11·4 |

| 31 Leonis Minoris. | | | | |
|---|---|---|---|---|
| Mar. | 22 | +37 | 30 | 53·2 |
| | 24 | | | 51·6 |
| | 26 | | | 52·5 |

| 27 Sextantis. | | | | |
|---|---|---|---|---|
| Mar. | 17 | − 3 | 35 | 9·4 |
| | 18 | | | 9·2 |
| | 19 | | | 9·9 |

| 36 Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Mar. | 26 | +56 | 47 | 18·2 |
| | 28 | | | 18·4 |
| | 30 | | | 18·2 |

| A.S.C. 1245. | | | | |
|---|---|---|---|---|
| Mar. | 19 | − 2 | 56 | 9·5 |
| | 22 | | | 9·2 |
| | 24 | | | 9·8 |

| 28 Sextantis. | | | | |
|---|---|---|---|---|
| Mar. | 12 | − 1 | 55 | 56·1 |
| | 17 | | | 55·3 |
| | 18 | | | 54·8 |

| 48 Leonis. | | | | |
|---|---|---|---|---|
| Feb. | 24 | + 7 | 45 | 53·3 |

| φ³ Hydræ et Crateris. | | | | |
|---|---|---|---|---|
| Mar. | 17 | −16 | 3 | 26·1 |
| | 18 | | | 26·2 |
| | 19 | | | 27·5 |

| A.S.C. 1266. | | | | |
|---|---|---|---|---|
| Mar. | 22 | +69 | 54 | 2·0 |
| | 24 | | | 0·4 |
| | 26 | | | 1·1 |

| Star | Date | ° | ′ | ″ |
|---|---|---|---|---|
| 40 Leonis Minoris. | Mar. 17 | +27 | 9 | 12·8 |
| | 18 | | | 12·0 |
| | 19 | | | 12·4 |
| 41 Leonis Minoris. | Mar. 22 | +24 | 0 | 50·9 |
| | 24 | | | 49·4 |
| | 26 | | | 49·7 |
| 44 Leonis Minoris. | Apr. 8 | +28 | 48 | 22·3 |
| | 11 | | | 24·4 |
| | 12 | | | 24·3 |
| 40 Sextantis. | Mar. 28 | − 3 | 11 | 21·1 |
| | Apr. 2 | | | 22·3 |
| | 4 | | | 24·0 |
| ν Hydræ et Crateris. | Mar. 18 | −15 | 22 | 6·5 |
| | 19 | | | 4·1 |
| | 22 | | | 3·1 |
| 41 Sextantis. | Mar. 26 | − 8 | 3 | 42·4 |
| | Apr. 11 | | | 43·8 |
| | 12 | | | 41·9 |
| 46 Leonis Minoris. | Mar. 17 | +35 | 3 | 54·5 |
| | 18 | | | 54·1 |
| | 19 | | | 54·4 |
| ω Ursæ Majoris. | Mar. 28 | +44 | 1 | 48·3 |
| | Apr. 4 | | | 46·7 |
| | 8 | | | 45·6 |
| 6 Hydræ et Crateris. | Mar. 22 | −19 | 17 | 18·9 |
| | 26 | | | 21·7 |
| | Apr. 2 | | | 18·2 |
| 54 Leonis, preceding. | Mar. 17 | +25 | 35 | 28·1 |
| | 18 | | | 27·5 |
| | 19 | | | 28·5 |
| 50 Leonis Minoris. | Mar. 22 | +26 | 20 | 34·4 |
| | 24 | | | 33·0 |
| | 26 | | | 33·8 |
| β Ursæ Majoris. | Mar. 17 | +57 | 13 | 40·5 |
| | 18 | | | 41·2 |
| | 19 | | | 40·5 |
| | 28 | | | 40·7 |
| | 31 | | | 40·8 |
| 60 Leonis. | Mar. 22 | +21 | 1 | 36·1 |
| | 24 | | | 34·8 |
| | 26 | | | 35·3 |
| χ Leonis. | Feb. 24 | + 8 | 11 | 20·3 |
| δ Leonis. | Mar. 24 | +21 | 23 | 16·8 |
| | 26 | | | 18·6 |
| | 28 | | | 19·1 |
| | 31 | | | 18·5 |
| | Apr. 2 | | | 20·3 |
| θ Leonis. | Apr. 4 | +16 | 17 | 32·1 |
| | 8 | | | 33·5 |
| | 11 | | | 32·7 |
| | 13 | | | 32·6 |
| | 16 | | | 32·5 |
| 72 Leonis. | Mar. 26 | +23 | 57 | 21·8 |
| | 28 | | | 22·4 |
| | Apr. 2 | | | 22·5 |
| ξ Ursæ Majoris, preced. | Mar. 24 | +32 | 25 | 2·0 |
| | 30 | | | 2·5 |
| | Apr. 4 | | | 3·0 |
| ν Ursæ Majoris. | Mar. 26 | +33 | 57 | 20·6 |
| | 28 | | | 20·4 |
| | 31 | | | 20·7 |
| 55 Ursæ Majoris. | Apr. 2 | +39 | 3 | 5·3 |
| | 8 | | | 4·6 |
| | 11 | | | 5·3 |
| λ Hydræ et Crateris. | Mar. 26 | −17 | 54 | 41·6 |
| | Apr. 2 | | | 41·9 |
| | 4 | | | 41·2 |
| ε Hydræ et Crateris. | Mar. 28 | − 9 | 59 | 32·6 |
| | Apr. 16 | | | 35·3 |
| | 18 | | | 35·5 |
| γ Hydræ et Crateris. | Apr. 11 | −16 | 48 | 59·7 |
| | 13 | | | 58·7 |
| | 16 | | | 59·7 |
| 81 Leonis. | Mar. 26 | +17 | 19 | 30·3 |
| | 30 | | | 29·4 |
| | Apr. 8 | | | 28·3 |
| κ Hydræ et Crateris. | Apr. 2 | −11 | 29 | 19·0 |
| | 4 | | | 18·9 |
| | 11 | | | 18·2 |
| Groombridge 1782. | Mar. 26 | +81 | 59 | 45·0 |
| | 28 | | | 45·0 |
| | 30 | | | 46·9 |
| Groombridge 1782 S.P. | Jan. 5 | +81 | 59 | 43·0 |
| | 6 | | | 43·4 |
| | 7 | | | 43·6 |
| 85 Leonis. | Apr. 16 | +16 | 17 | 8·3 |
| | 18 | | | 8·6 |
| | 19 | | | 7·6 |
| λ Draconis. | Apr. 2 | +70 | 12 | 8·8 |
| | 4 | | | 10·4 |
| | 8 | | | 9·7 |
| 86 Leonis. | Apr. 9 | +19 | 16 | 48·5 |
| | 11 | | | 47·0 |
| | 16 | | | 44·9 |
| 90 Leonis, North. | Mar. 26 | +17 | 40 | 11·9 |
| | 28 | | | 13·2 |
| | 30 | | | 11·9 |
| A.S.C. 1359. | Apr. 2 | +28 | 39 | 15·1 |
| | 4 | | | 16·2 |
| | 9 | | | 17·1 |
| θ Hydræ et Crateris. | Mar. 26 | − 8 | 55 | 41·0 |
| | 28 | | | 41·0 |
| | Apr. 11 | | | 43·7 |
| υ Leonis. | Feb. 26 | + 0 | 2 | 53·7 |
| | Apr. 22 | | | 54·1 |
| 24 Hydræ et Crateris. | Apr. 2 | −12 | 19 | 53·7 |
| | 4 | | | 55·3 |
| | 9 | | | 54·8 |
| 92 Leonis. | Apr. 9 | +22 | 13 | 49·5 |
| | 11 | | | 50·0 |
| | 12 | | | 49·2 |
| ζ Hydræ et Crateris. | Mar. 26 | −17 | 28 | 17·4 |
| | 2 | | | 17·8 |
| | 4 | | | 18·5 |
| χ Ursæ Majoris. | Apr. 8 | +48 | 39 | 19·2 |
| | 9 | | | 20·2 |
| | 11 | | | 20·1 |
| 93 Leonis. | Mar. 26 | +21 | 5 | 50·0 |
| | Apr. 2 | | | 49·3 |
| | 4 | | | 48·7 |
| β Leonis. | Mar. 26 | +15 | 27 | 20·4 |
| | Apr. 2 | | | 20·5 |
| | 4 | | | 19·0 |
| | 8 | | | 19·2 |
| | 9 | | | 21·1 |
| β Virginis. | Feb. 26 | + 2 | 39 | 18·2 |
| | Apr. 22 | | | 20·5 |
| η Hydræ et Crateris. | Mar. 26 | −16 | 16 | 14·0 |
| | Apr. 4 | | | 14·8 |
| | 9 | | | 14·5 |
| 31 Hydræ et Crateris. | Mar. 26 | −18 | 46 | 43·1 |
| | Apr. 4 | | | 45·6 |
| | 9 | | | 44·2 |
| 1 Comæ Berenices. | Apr. 11 | +22 | 58 | 31·2 |
| | 16 | | | 29·6 |
| | 18 | | | 29·9 |

| Star | Date | ° | ′ | ″ |
|---|---|---|---|---|
| 2 Comæ Berenices, fol. | Apr. 9 | +22 | 20 | 22·7 |
| | 11 | | | 22·8 |
| | 16 | | | 21·9 |
| Groombridge 1858. | Apr. 9 | +82 | 35 | 22·8 |
| | 11 | | | 22·7 |
| | 16 | | | 22·5 |
| Groombridge 1858 S.P. | Oct. 7 | +82 | 35 | 20·2 |
| | 10 | | | 20·0 |
| | 12 | | | 20·6 |
| 4 Comæ Berenices. | Apr. 18 | +26 | 45 | 4·1 |
| | 19 | | | 3·8 |
| | 22 | | | 2·1 |
| 5 Comæ Berenices. | Apr. 25 | +21 | 25 | 21·1 |
| | 26 | | | 20·7 |
| | 28 | | | 19·3 |
| 12 Virginis. | Apr. 22 | +11 | 8 | 33·3 |
| | 29 | | | 32·3 |
| | May 2 | | | 32·0 |
| δ Ursæ Majoris. | Apr. 8 | +57 | 54 | 37·8 |
| | May 28 | | | 40·2 |
| | June 6 | | | 40·1 |
| | July 12 | | | 41·0 |
| | 16 | | | 40·0 |
| γ Corvi. | Apr. 12 | −16 | 39 | 49·9 |
| | 18 | | | 48·5 |
| | 19 | | | 48·8 |
| | May 12 | | | 50·7 |
| | 23 | | | 50·5 |
| 6 Comæ Berenices. | Apr. 25 | +15 | 46 | 45·8 |
| | 26 | | | 46·0 |
| | 28 | | | 44·5 |
| 7 Comæ Berenices. | Apr. 29 | +24 | 49 | 28·7 |
| | May 2 | | | 29·0 |
| | 9 | | | 29·2 |
| 8 Comæ Berenices. | Apr. 9 | +23 | 54 | 48·6 |
| | 11 | | | 47·9 |
| | 16 | | | 47·5 |
| 10 Comæ Berenices. | Apr. 18 | +29 | 20 | 34·2 |
| | 19 | | | 34·2 |
| | 25 | | | 33·2 |
| 11 Comæ Berenices. | Apr. 29 | +18 | 40 | 0·1 |
| | May 2 | | | 0·0 |
| | 9 | | | 2·0 |
| A.S.C. 1420. | Apr. 12 | −12 | 41 | 16·7 |
| | 26 | | | 17·1 |
| | 28 | | | 17·6 |
| 12 Comæ Berenices. | Apr. 9 | +26 | 43 | 24·9 |
| | 11 | | | 25·9 |
| | 16 | | | 24·6 |
| 13 Comæ Berenices. | Apr. 12 | +26 | 58 | 32·7 |
| | 18 | | | 32·5 |
| | 19 | | | 32·0 |
| 14 Comæ Berenices. | Apr. 9 | +28 | 8 | 40·5 |
| | 11 | | | 40·9 |
| | 12 | | | 40·7 |
| 15 Comæ Berenices. | Apr. 16 | +29 | 8 | 51·4 |
| | 18 | | | 50·6 |
| | 19 | | | 51·3 |
| 16 Comæ Berenices. | Apr. 22 | +27 | 42 | 4·5 |
| | 25 | | | 5·3 |
| | 26 | | | 6·6 |
| 17 Comæ Berenices. | Apr. 9 | +26 | 47 | 17·6 |
| | 11 | | | 18·3 |
| | 25 | | | 18·2 |
| δ Corvi. | Apr. 12 | −15 | 38 | 4·2 |
| | 16 | | | 6·1 |
| | 19 | | | 1·7 |
| | 26 | | | 4·5 |
| | May 9 | | | 5·9 |
| 21 Comæ Berenices. | Apr. 9 | +25 | 26 | 30·1 |
| | 11 | | | 29·0 |
| | 22 | | | 27·7 |
| η Corvi. | Apr. 12 | −15 | 19 | 8·8 |
| | 16 | | | 12·1 |
| | 19 | | | 9·8 |
| 20 Virginis. | Apr. 18 | +11 | 10 | 7·1 |
| | 25 | | | 6·9 |
| | 26 | | | 8·1 |
| 21 Virginis. | Apr. 22 | − 8 | 34 | 44·8 |
| 22 Comæ Berenices. | Apr. 9 | +25 | 9 | 22·0 |
| | 11 | | | 23·4 |
| | 28 | | | 21·1 |
| 8 Canum Venaticorum. | Apr. 16 | +42 | 13 | 0·8 |
| | 19 | | | 1·4 |
| | 29 | | | 0·0 |
| κ Draconis. | May 12 | +70 | 39 | 36·8 |
| | 23 | | | 36·1 |
| | 28 | | | 39·3 |
| 23 Comæ Berenices. | Apr. 28 | +23 | 30 | 1·8 |
| | May 2 | | | 1·9 |
| | 9 | | | 2·6 |
| 24 Comæ Berenices, fol. | Apr. 18 | +19 | 14 | 53·2 |
| | 25 | | | 53·6 |
| | 26 | | | 53·1 |
| 25 Comæ Berenices. | Apr. 9 | +17 | 57 | 42·5 |
| | 11 | | | 41·3 |
| | 16 | | | 40·1 |
| 26 Comæ Berenices. | Apr. 16 | +21 | 55 | 57·1 |
| | 18 | | | 57·8 |
| | 19 | | | 58·0 |
| 27 Virginis. | Apr. 16 | +11 | 17 | 41·5 |
| | 18 | | | 40·8 |
| | 19 | | | 40·6 |
| ρ Virginis. | Apr. 22 | +11 | 6 | 27·7 |
| | 25 | | | 28·9 |
| | 26 | | | 28·5 |
| 31 Virginis. | Apr. 28 | + 7 | 40 | 30·9 |
| | 29 | | | 30·4 |
| | May 2 | | | 31·4 |
| 33 Virginis. | Apr. 16 | +10 | 25 | 27·9 |
| | 18 | | | 30·1 |
| | 19 | | | 30·7 |
| 27 Comæ Berenices. | Apr. 22 | +17 | 26 | 32·8 |
| | 25 | | | 31·1 |
| | 26 | | | 32·0 |
| 34 Virginis. | Apr. 28 | +12 | 49 | 23·1 |
| | 29 | | | 24·1 |
| | May 9 | | | 24·6 |
| 29 Comæ Berenices. | Apr. 16 | +14 | 59 | 12·7 |
| | 18 | | | 12·7 |
| | 19 | | | 13·0 |
| 30 Comæ Berenices. | Apr. 22 | +28 | 24 | 50·9 |
| | 25 | | | 51·0 |
| | 26 | | | 50·8 |
| 31 Comæ Berenices. | Apr. 16 | +28 | 24 | 7·4 |
| | 18 | | | 7·9 |
| | 19 | | | 6·7 |
| 35 Comæ Berenices. | Apr. 25 | +22 | 6 | 20·5 |
| | 26 | | | 20·1 |
| | 28 | | | 19·7 |
| 41 Virginis. | Apr. 16 | +13 | 16 | 45·5 |
| | 19 | | | 45·1 |
| | 29 | | | 45·2 |
| ψ Virginis. | Apr. 22 | − 8 | 40 | 46·1 |

| ε Ursæ Majoris. | | ° | ′ | ″ |
|---|---|---|---|---|
| May | 2 | +56 | 49 | 7·7 |
| | 9 | | | 8·2 |
| | 12 | | | 7·9 |
| | 28 | | | 8·6 |
| June | 6 | | | 7·7 |

| 36 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 16 | +18 | 15 | 45·6 |
| | 18 | | | 45·9 |
| | 19 | | | 45·1 |

| 37 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 18 | +31 | 38 | 20·4 |
| | 19 | | | 20·0 |
| | 22 | | | 19·7 |

| 38 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +17 | 58 | 36·8 |
| | 26 | | | 37·4 |
| | 28 | | | 37·0 |

| ε Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 29 | +11 | 48 | 38·1 |
| May | 9 | | | 37·5 |
| | 12 | | | 36·5 |

| 14 Canum Venaticorum. | | | | |
|---|---|---|---|---|
| Apr. | 22 | +36 | 38 | 44·8 |
| | 25 | | | 44·3 |
| | 26 | | | 45·2 |

| 39 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 28 | +22 | 0 | 10·3 |
| | 29 | | | 10·6 |
| May | 2 | | | 9·7 |

| 40 Comæ Berenices. | | | | |
|---|---|---|---|---|
| May | 9 | +23 | 27 | 58·2 |
| | 12 | | | 56·8 |
| | 28 | | | 56·1 |

| 41 Comæ Berenices. | | | | |
|---|---|---|---|---|
| June | 6 | +28 | 28 | 27·6 |
| | 13 | | | 28·4 |
| | 14 | | | 28·7 |

| A.S.C. 1508. | | ° | ′ | ″ |
|---|---|---|---|---|
| Apr. | 25 | +28 | 24 | 15·6 |
| | 26 | | | 15·5 |
| | 28 | | | 15·5 |

| 42 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 22 | +18 | 22 | 2·3 |
| | 25 | | | 1·4 |
| | 26 | | | 0·8 |

| 43 Comæ Berenices. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +28 | 40 | 51·1 |
| | 26 | | | 50·8 |
| | 28 | | | 50·3 |

| A.S.C. 1516. | | | | |
|---|---|---|---|---|
| Apr. | 22 | +12 | 23 | 55·7 |
| | 29 | | | 54·7 |
| May | 9 | | | 55·1 |

| 57 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | −19 | 6 | 1·9 |
| | 26 | | | 1·5 |
| | 28 | | | 0·0 |

| 59 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 29 | +10 | 15 | 7·9 |
| May | 2 | | | 7·5 |
| | 9 | | | 6·5 |

| σ Virginis. | | | | |
|---|---|---|---|---|
| May | 21 | + 6 | 18 | 15·2 |
| | 23 | | | 16·7 |
| | 28 | | | 16·4 |

| 20 Canum Venaticorum. | | | | |
|---|---|---|---|---|
| June | 6 | +41 | 24 | 23·0 |
| | 8 | | | 21·4 |
| | 13 | | | 21·3 |

| Groombridge 1977. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +81 | 18 | 30·1 |
| | 26 | | | 29·9 |
| | 28 | | | 28·7 |

| Groombridge 1977 S.P. | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 24 | +81 | 18 | 27·6 |
| | 26 | | | 26·7 |
| Nov. | 9 | | | 26·6 |

| 21 Canum Venaticorum. | | | | |
|---|---|---|---|---|
| Apr. | 29 | +50 | 30 | 52·8 |
| May | 2 | | | 53·5 |
| | 9 | | | 53·5 |

| 64 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | + 5 | 59 | 8·0 |
| | 26 | | | 8·8 |
| | 28 | | | 8·2 |

| α Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 29 | −10 | 20 | 2·2 |
| May | 9 | | | 1·5 |
| | 12 | | | 3·4 |
| | 21 | | | 3·2 |
| | 28 | | | 2·9 |

| 80 Ursæ Majoris. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +55 | 48 | 45·6 |
| | 26 | | | 46·0 |
| | 28 | | | 46·5 |

| 70 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 29 | +14 | 37 | 30·7 |
| May | 9 | | | 30·3 |
| | 21 | | | 29·8 |

| 71 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +11 | 38 | 24·0 |
| | 26 | | | 24·1 |
| | 28 | | | 23·6 |

| 78 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | + 4 | 28 | 23·3 |
| | 26 | | | 22·3 |
| | 28 | | | 22·7 |

| 1 Bootis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +20 | 45 | 26·3 |
| | 26 | | | 26·5 |
| | 29 | | | 27·3 |

| 2 Bootis. | | ° | ′ | ″ |
|---|---|---|---|---|
| May | 2 | +23 | 17 | 56·5 |
| | 9 | | | 56·3 |
| | 12 | | | 57·7 |

| 84 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | + 4 | 20 | 24·0 |
| | 26 | | | 25·1 |
| May | 28 | | | 24·8 |

| 3 Bootis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +26 | 29 | 51·7 |
| | 26 | | | 50·4 |
| May | 9 | | | 51·8 |

| τ Bootis. | | | | |
|---|---|---|---|---|
| May | 12 | +18 | 14 | 49·4 |
| | 28 | | | 48·8 |
| June | 6 | | | 48·9 |

| η Ursæ Majoris. | | | | |
|---|---|---|---|---|
| May | 23 | +50 | 6 | 14·9 |
| June | 13 | | | 14·2 |
| | 14 | | | 14·4 |
| Aug. | 4 | | | 14·0 |
| | 16 | | | 13·6 |

| 7 Bootis. | | | | |
|---|---|---|---|---|
| May | 21 | +18 | 42 | 52·3 |
| | 23 | | | 52·2 |
| | 28 | | | 52·2 |

| 10 Draconis. | | | | |
|---|---|---|---|---|
| May | 22 | +65 | 30 | 20·4 |
| June | 6 | | | 20·6 |
| | 8 | | | 20·6 |

| 9 Bootis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +28 | 16 | 10·1 |
| | 26 | | | 9·8 |
| May | 9 | | | 11·7 |

| A.S.C. 1614. | | | | |
|---|---|---|---|---|
| May | 12 | + 3 | 9 | 23·8 |
| | 21 | | | 24·3 |
| | 22 | | | 24·5 |

| 3 Ursæ Minoris. | | ° | ′ | ″ |
|---|---|---|---|---|
| Apr. | 25 | +75 | 20 | 34·2 |
| | 26 | | | 33 9 |
| May | 9 | | | 35·4 |

| 3 Ursæ Minoris S.P. | | | | |
|---|---|---|---|---|
| Oct. | 20 | +75 | 20 | 33·4 |
| Nov. | 9 | | | 31·6 |
| | 12 | | | 32·3 |

| 14 Bootis. | | | | |
|---|---|---|---|---|
| May | 12 | +13 | 42 | 14·3 |
| | 28 | | | 14·3 |
| June | 6 | | | 14·2 |

| 15 Bootis. | | | | |
|---|---|---|---|---|
| May | 21 | +10 | 50 | 53·6 |
| | 22 | | | 53·5 |
| June | 8 | | | 52·6 |

| α Bootis. | | | | |
|---|---|---|---|---|
| June | 18 | +20 | 0 | 27·2 |
| July | 15 | | | 28·0 |
| Aug. | 22 | | | 26·9 |
| Sept. | 6 | | | 29·1 |
| | 20 | | | 28·7 |

| A.S.C. 1621. | | | | |
|---|---|---|---|---|
| Apr. | 25 | +19 | 39 | 2·6 |
| | 26 | | | 2·5 |
| May | 9 | | | 1·9 |

| λ Virginis. | | | | |
|---|---|---|---|---|
| May | 21 | −12 | 38 | 25·5 |
| | 22 | | | 25·7 |

| 102 Virginis. | | | | |
|---|---|---|---|---|
| Apr. | 25 | − 1 | 31 | 53·6 |
| | 26 | | | 52·2 |

| 18 Bootis. | | | | |
|---|---|---|---|---|
| May | 9 | +13 | 44 | 12·2 |
| | 12 | | | 13·0 |
| | 28 | | | 13·8 |

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|---|---|---|---|---|
| **20 Bootis.** | | | | |
| June | 6 | +17 | 2 | 3·4 |
| | 8 | | | 2·4 |
| | 13 | | | 1·6 |
| **103 Virginis.** | | | | |
| May | 12 | − 1 | 15 | 43·0 |
| | 21 | | | 42·7 |
| | 22 | | | 43·6 |
| **A.S.C. 1632 North.** | | | | |
| June | 6 | + 9 | 10 | 9·9 |
| | 8 | | | 9·9 |
| | 13 | | | 8·6 |
| **A.S.C. 1636.** | | | | |
| May | 12 | + 6 | 32 | 26·3 |
| | 21 | | | 25·6 |
| | 22 | | | 24·9 |
| **θ Bootis.** | | | | |
| May | 12 | +52 | 35 | 1·0 |
| | 22 | | | 0·5 |
| | 28 | | | 1·0 |
| **26 Bootis.** | | | | |
| May | 12 | +22 | 57 | 33·4 |
| **γ Bootis.** | | | | |
| May | 21 | +39 | 0 | 7·1 |
| | 22 | | | 7·6 |
| | 28 | | | 8·2 |
| **σ Bootis.** | | | | |
| May | 12 | +30 | 26 | 5·3 |
| | 21 | | | 5·0 |
| | 22 | | | 5·5 |
| **31 Bootis.** | | | | |
| May | 12 | + 8 | 50 | 29·6 |
| | 21 | | | 29·9 |

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|---|---|---|---|---|
| **34 Bootis.** | | | | |
| May | 12 | +27 | 12 | 12·2 |
| | 13 | | | 11·1 |
| | 21 | | | 11·1 |
| **35 Bootis.** | | | | |
| May | 27 | +17 | 38 | 14·1 |
| | 28 | | | 13·8 |
| June | 6 | | | 13·0 |
| **109 Virginis.** | | | | |
| May | 21 | + 2 | 33 | 46·5 |
| | 23 | | | 47·0 |
| June | 8 | | | 46·2 |
| **α² Libræ.** | | | | |
| Apr. | 25 | −15 | 22 | 52·0 |
| | 26 | | | 50·7 |
| May | 12 | | | 51·4 |
| | 21 | | | 50·9 |
| | 23 | | | 50·8 |
| **16 Libræ.** | | | | |
| May | 12 | − 3 | 41 | 54·4 |
| | 21 | | | 54·5 |
| | 22 | | | 54·1 |
| **1 Serpentis.** | | | | |
| May | 27 | + 0 | 28 | 24·9 |
| June | 8 | | | 24·9 |
| | 13 | | | 23·1 |
| **A.S.C. 1698.** | | | | |
| May | 28 | +17 | 1 | 42·3 |
| June | 22 | | | 41·3 |
| | 29 | | | 41·0 |
| **β Ursæ Minoris.** | | | | |
| Jan. | 5 | +74 | 48 | 4·5 |
| Apr. | 25 | | | 4·1 |
| | 26 | | | 4·7 |
| Sept. | 19 | | | 5·3 |
| | 21 | | | 4·7 |

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| **β Ursæ Minoris S.P.** | | | | |
| Mar. | 1 | +77 | 48 | 3·1 |
| | 8 | | | 2·6 |
| | 9 | | | 2·8 |
| | 10 | | | 2·6 |
| | 19 | | | 2·2 |
| **ψ Bootis.** | | | | |
| Jan. | 5 | +27 | 34 | 2·2 |
| May | 12 | | | 3·5 |
| | 21 | | | 3·8 |
| **44 Bootis, following.** | | | | |
| May | 13 | +48 | 16 | 21·1 |
| | 22 | | | 21·3 |
| June | 6 | | | 20·7 |
| **A.S.C. 1720.** | | | | |
| May | 22 | +25 | 43 | 1·1 |
| | 27 | | | 0·6 |
| **Groombridge 2213.** | | | | |
| Apr. | 26 | +84 | 33 | 37·0 |
| May | 12 | | | 38·6 |
| | 21 | | | 38·0 |
| **Groombridge 2213 S.P.** | | | | |
| Jan. | 6 | +84 | 33 | 37·4 |
| Nov. | 23 | | | 35·6 |
| | 29 | | | 35·9 |
| **3 Serpentis.** | | | | |
| May | 22 | + 5 | 31 | 49·8 |
| | 27 | | | 50·1 |
| | 28 | | | 50·2 |
| **4 Serpentis.** | | | | |
| June | 6 | + 0 | 57 | 39·6 |
| | 8 | | | 40·7 |
| | 13 | | | 39·7 |
| **χ Bootis.** | | | | |
| June | 15 | +29 | 45 | 15·3 |
| | 22 | | | 15·2 |
| | 24 | | | 15·3 |

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| **δ Bootis.** | | | | |
| June | 25 | +33 | 54 | 28·3 |
| | 29 | | | 27·5 |
| **6 Serpentis.** | | | | |
| May | 12 | + 1 | 17 | 42·0 |
| **7 Serpentis.** | | | | |
| May | 21 | +13 | 8 | 16·9 |
| | 22 | | | 15·4 |
| | 27 | | | 16·5 |
| **9 Serpentis.** | | | | |
| May | 12 | +15 | 59 | 17·9 |
| | 21 | | | 17·9 |
| | 22 | | | 16·7 |
| **μ Bootis.** | | | | |
| May | 13 | +37 | 56 | 3·7 |
| | 27 | | | 5·1 |
| | 28 | | | 4·5 |
| **10 Serpentis.** | | | | |
| June | 6 | + 2 | 23 | 44·0 |
| | 8 | | | 44·8 |
| | 13 | | | 44·6 |
| **A.S.C. 1752.** | | | | |
| May | 28 | −16 | 42 | 22·1 |
| **β Coronæ Borealis.** | | | | |
| May | 21 | +29 | 39 | 14·3 |
| | 22 | | | 14·1 |
| June | 18 | | | 14·8 |
| **γ² Ursæ Minoris.** | | | | |
| May | 13 | +72 | 23 | 47·3 |
| June | 15 | | | 46·6 |
| | 22 | | | 47·4 |
| **θ Coronæ Borealis.** | | | | |
| May | 12 | +31 | 53 | 47·6 |
| | 13 | | | 46·6 |

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| **δ Serpentis, North.** | | | | |
| May | 21 | +11 | 4 | 18·6 |
| | 22 | | | 17·7 |
| **α Coronæ Borealis.** | | | | |
| Apr. | 26 | +27 | 15 | 0·6 |
| June | 18 | | | 2·2 |
| July | 13 | | | 0·8 |
| | 16 | | | 0·5 |
| Sept. | 21 | | | 1·0 |
| **15 Serpentis.** | | | | |
| May | 27 | +18 | 11 | 10·5 |
| | 28 | | | 10·7 |
| June | 6 | | | 9·9 |
| **14 Serpentis.** | | | | |
| June | 8 | − 0 | 1 | 56·0 |
| | 22 | | | 55·7 |
| | 29 | | | 56·4 |
| **μ Coronæ Borealis.** | | | | |
| May | 12 | +39 | 32 | 19·1 |
| | 13 | | | 17·8 |
| | 21 | | | 17·4 |
| **κ Libræ.** | | | | |
| Apr. | 26 | −19 | 9 | 40·0 |
| **χ Serpentis.** | | | | |
| May | 12 | +13 | 21 | 33·3 |
| | 21 | | | 33·6 |
| | 27 | | | 32·9 |
| **ι Serpentis.** | | | | |
| May | 13 | +20 | 10 | 59·3 |
| | 28 | | | 59·7 |
| June | 6 | | | 59·7 |
| **22 Serpentis.** | | | | |
| June | 8 | +18 | 58 | 18·7 |
| | 15 | | | 19·0 |
| | 22 | | | 18·3 |

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| ψ Serpentis. | June 29 | + 3 | 1 | 35·9 |
| γ Coronæ Borealis. | June 13 | +26 | 47 | 59·5 |
| | 24 | | | 60·4 |
| | 28 | | | 59·6 |
| 26 Serpentis. | May 12 | +17 | 45 | 56·8 |
| | 21 | | | 57·4 |
| | 27 | | | 56·7 |
| 25 Serpentis. | May 28 | − 1 | 18 | 13·0 |
| | June 6 | | | 14·2 |
| | 8 | | | 14·3 |
| λ Serpentis. | June 22 | + 7 | 51 | 11·4 |
| | 29 | | | 10·0 |
| | July 13 | | | 9·2 |
| β Serpentis. | May 13 | +15 | 55 | 16·1 |
| | June 13 | | | 15·0 |
| | 15 | | | 15·8 |
| μ Serpentis. | May 12 | − 2 | 56 | 27·9 |
| ω Serpentis. | May 27 | + 2 | 41 | 3·0 |
| | 28 | | | 2·2 |
| | June 6 | | | 2·2 |
| ε Serpentis. | Jan. 6 | + 4 | 57 | 28·6 |
| | June 8 | | | 29·9 |
| δ Coronæ Borealis. | June 15 | +26 | 33 | 22·5 |
| | 28 | | | 21·7 |
| | 30 | | | 20·9 |

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| 36 Serpentis. | June 13 | − 2 | 36 | 27·6 |
| | 22 | | | 25·4 |
| | 29 | | | 25·4 |
| ρ Serpentis. | June 8 | +21 | 27 | 26·1 |
| | 13 | | | 25·5 |
| | 15 | | | 27·1 |
| κ Coronæ Borealis. | May 27 | +36 | 9 | 3·8 |
| | 28 | | | 3·6 |
| | June 6 | | | 3·5 |
| A.S.C. 1817. | May 27 | +20 | 46 | 43·5 |
| | 28 | | | 43·4 |
| | June 6 | | | 42·9 |
| γ Serpentis. | Jan. 6 | +16 | 10 | 53·5 |
| ζ Ursæ Minoris. | Apr. 26 | +78 | 16 | 38·3 |
| | May 12 | | | 39·3 |
| | 23 | | | 38·7 |
| | 27 | | | 39·4 |
| | 28 | | | 40·2 |
| ζ Ursæ Minoris S.P. | Jan. 6 | +78 | 16 | 37·7 |
| | 8 | | | 36·4 |
| | 11 | | | 36·9 |
| | 17 | | | 36·3 |
| | Mar. 9 | | | 35·7 |
| 50 Libræ. | June 6 | − 7 | 57 | 31·7 |
| | 8 | | | 32·5 |
| | 13 | | | 34·0 |
| 3 Herculis. | May 27 | + 4 | 52 | 27·4 |
| | 28 | | | 29·6 |
| | June 14 | | | 30·4 |

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|---|---|---|---|---|
| 5 Herculis. | June 15 | +18 | 15 | 34·5 |
| | 18 | | | 34·5 |
| | 22 | | | 33·9 |
| π Serpentis. | June 8 | +23 | 14 | 49·9 |
| | 13 | | | 49·3 |
| | 14 | | | 50·3 |
| 43 Serpentis. | June 28 | + 5 | 25 | 36·4 |
| | July 12 | | | 35·8 |
| | 13 | | | 35·1 |
| β¹ Scorpii. | Apr. 26 | −19 | 21 | 59·6 |
| | May 12 | | | 60·7 |
| | 27 | | | 59·0 |
| | 28 | | | 61·9 |
| | June 6 | | | 61·2 |
| υ Herculis. | June 8 | +46 | 28 | 41·9 |
| | 13 | | | 41·4 |
| | 14 | | | 42·6 |
| θ Draconis. | Jan. 6 | +58 | 59 | 20·9 |
| 47 Serpentis. | May 28 | + 8 | 57 | 34·5 |
| χ¹ Herculis. | June 8 | +17 | 28 | 21·4 |
| | 14 | | | 21·8 |
| | 15 | | | 21·8 |
| 16 Scorpii. | May 27 | − 8 | 8 | 0·4 |
| | June 6 | | | 0·1 |
| | 14 | | | 0·1 |

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| 48 Serpentis. | June 15 | +17 | 4 | 45·7 |
| | 22 | | | 45·9 |
| | 28 | | | 45·2 |
| 10 Herculis. | May 28 | +23 | 54 | 28·6 |
| | July 12 | | | 26·8 |
| | 13 | | | 27·6 |
| 9 Herculis. | June 13 | + 5 | 25 | 48·1 |
| | July 13 | | | 47·4 |
| | 14 | | | 46·8 |
| 18 Scorpii. | May 27 | − 7 | 56 | 43·1 |
| | June 14 | | | 43·5 |
| | 22 | | | 43·3 |
| A.S.C. 1865. | June 13 | − 3 | 33 | 25·0 |
| | 28 | | | 23·8 |
| | 29 | | | 23·1 |
| 17 Herculis. | June 15 | +23 | 31 | 11·7 |
| | 22 | | | 12·0 |
| | July 12 | | | 11·5 |
| ε Ophiuchi. | June 14 | − 4 | 18 | 6·3 |
| τ Herculis. | June 14 | +46 | 41 | 35·0 |
| | 15 | | | 35·2 |
| | 28 | | | 34·4 |
| 19 Ursæ Minoris. | May 12 | +76 | 16 | 23·2 |
| | June 13 | | | 21·8 |
| | 22 | | | 23·3 |

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|---|---|---|---|---|
| 19 Ursæ Minoris S.P. | Jan. 6 | +76 | 16 | 20·7 |
| | 8 | | | 20·8 |
| | 17 | | | 18·1 |
| ξ Coronæ Borealis. | July 9 | +31 | 15 | 45·2 |
| | 12 | | | 44·8 |
| | 13 | | | 45·3 |
| ν¹ Coronæ Borealis. | July 14 | +34 | 10 | 29·6 |
| | 15 | | | 28·5 |
| | 16 | | | 29·7 |
| ν² Coronæ Borealis. | July 15 | +34 | 4 | 29·0 |
| | 16 | | | 30·0 |
| | 21 | | | 28·8 |
| 51 Serpentis. | June 13 | +14 | 24 | 6·5 |
| | 14 | | | 7·7 |
| | 15 | | | 8·2 |
| υ Ophiuchi. | June 28 | − 8 | 0 | 44·8 |
| | 29 | | | 44·9 |
| | July 9 | | | 44·9 |
| α Scorpii. | May 27 | −26 | 4 | 31·0 |
| | 28 | | | 28·2 |
| | June 21 | | | 27·5 |
| | 22 | | | 29·1 |
| | 24 | | | 32·9 |
| 25 Herculis. | July 12 | +37 | 45 | 26·5 |
| | 14 | | | 24·0 |
| | 15 | | | 26·2 |
| λ Ophiuchi. | June 13 | + 2 | 20 | 5·9 |
| | 14 | | | 8·7 |
| | 22 | | | 6·9 |

| 30 Herculis. | ° | ′ | ″ |
|---|---|---|---|
| June 15 | +42 | 13 | 58·6 |
| 28 | | | 57·8 |
| 29 | | | 57·2 |

| 28 Herculis. | | | |
|---|---|---|---|
| July 12 | + 5 | 51 | 45·7 |
| 14 | | | 45·4 |
| 15 | | | 45·7 |

| 29 Herculis. | | | |
|---|---|---|---|
| June 13 | +11 | 49 | 55·9 |
| 14 | | | 56·8 |
| 15 | | | 59·4 |
| 22 | | | 57·3 |

| 15 Draconis. | | | |
|---|---|---|---|
| June 15 | +69 | 6 | 35·2 |
| 22 | | | 36·3 |
| 28 | | | 36·2 |

| ζ Ophiuchi. | | | |
|---|---|---|---|
| June 13 | −10 | 14 | 29·3 |
| 14 | | | 27·8 |

| σ Herculis. | | | |
|---|---|---|---|
| July 9 | +42 | 45 | 57·8 |
| 12 | | | 57·9 |
| 15 | | | 57·8 |

| 33 Herculis. | | | |
|---|---|---|---|
| June 29 | + 7 | 25 | 60·6 |
| July 13 | | | 60·1 |
| 14 | | | 59·8 |

| 16 Ophiuchi. | | | |
|---|---|---|---|
| June 13 | + 1 | 18 | 57·2 |

| η Herculis. | | | |
|---|---|---|---|
| June 14 | +39 | 13 | 35·7 |

| 43 Herculis. | ° | ′ | ″ |
|---|---|---|---|
| June 22 | + 8 | 52 | 32·6 |
| 28 | | | 32·3 |
| 29 | | | 33·7 |

| 18 Draconis. | | | |
|---|---|---|---|
| June 23 | +64 | 53 | 20·7 |
| July 9 | | | 21·7 |
| 14 | | | 21·1 |

| 45 Herculis. | | | |
|---|---|---|---|
| June 13 | + 5 | 32 | 7·5 |
| 14 | | | 8·8 |
| July 12 | | | 6·5 |

| 47 Herculis. | | | |
|---|---|---|---|
| June 22 | + 7 | 31 | 32·4 |

| 21 Ophiuchi. | | | |
|---|---|---|---|
| June 28 | + 1 | 29 | 25·7 |
| 29 | | | 27·0 |
| July 9 | | | 25·9 |

| 50 Herculis. | | | |
|---|---|---|---|
| July 13 | +30 | 4 | 47·9 |
| 14 | | | 49·0 |
| 15 | | | 48·2 |

| 52 Herculis. | | | |
|---|---|---|---|
| July 12 | +46 | 15 | 40·8 |
| 16 | | | 42·0 |
| 21 | | | 40·6 |

| 49 Herculis. | | | |
|---|---|---|---|
| July 22 | +15 | 14 | 40·3 |
| 23 | | | 38·9 |
| 27 | | | 39·4 |

| 51 Herculis. | | | |
|---|---|---|---|
| June 22 | +24 | 55 | 35·7 |
| July 22 | | | 35·3 |
| 23 | | | 34·2 |

| 23 Ophiuchi. | ° | ′ | ″ |
|---|---|---|---|
| June 28 | − 5 | 53 | 22·7 |
| 29 | | | 21·7 |
| July 9 | | | 22·2 |

| ι Ophiuchi. | | | |
|---|---|---|---|
| July 21 | +10 | 25 | 50·7 |
| 27 | | | 49·3 |
| 28 | | | 51·2 |

| 53 Herculis. | | | |
|---|---|---|---|
| July 14 | +31 | 58 | 1·9 |
| 15 | | | 1·0 |
| 16 | | | 2·6 |

| 54 Herculis. | | | |
|---|---|---|---|
| June 22 | +18 | 41 | 26·0 |
| 28 | | | 25·8 |
| 29 | | | 26·0 |

| 30 Ophiuchi. | | | |
|---|---|---|---|
| June 23 | − 3 | 58 | 48·2 |
| 28 | | | 47·6 |
| 29 | | | 47·4 |

| 59 Herculis. | | | |
|---|---|---|---|
| June 22 | +33 | 48 | 3·7 |
| July 13 | | | 2·7 |
| 14 | | | 3·2 |

| A.S.C. 1951. | | | |
|---|---|---|---|
| June 28 | −10 | 51 | 37·7 |
| 29 | | | 36·8 |
| July 12 | | | 38·9 |

| 32 Ophiuchi. | | | |
|---|---|---|---|
| July 15 | +14 | 19 | 28·5 |
| 16 | | | 28·9 |
| 21 | | | 28·2 |

| A.S.C. 1956. | | | |
|---|---|---|---|
| July 9 | − 0 | 40 | 9·6 |
| 13 | | | 10·6 |
| 22 | | | 9·6 |

| 60 Herculis. | ° | ′ | ″ |
|---|---|---|---|
| June 22 | +12 | 57 | 47·3 |
| 29 | | | 47·0 |
| July 12 | | | 46·3 |

| ε Ursæ Minoris. | | | |
|---|---|---|---|
| July 15 | +82 | 17 | 13·7 |
| 16 | | | 12·9 |
| 21 | | | 13·5 |
| 22 | | | 12·8 |
| 23 | | | 12·2 |
| Oct. 7 | | | 15·1 |

| ε Ursæ Minoris S.P. | | | |
|---|---|---|---|
| Jan. 22 | +82 | 17 | 10·1 |
| 24 | | | 11·6 |
| 25 | | | 10·3 |
| 27 | | | 8·8 |
| 29 | | | 9·7 |

| μ Draconis, North. | | | |
|---|---|---|---|
| July 9 | +54 | 40 | 51·8 |

| A.S.C. 1963. | | | |
|---|---|---|---|
| July 12 | +36 | 8 | 38·4 |
| 13 | | | 38·7 |
| 14 | | | 39·0 |

| 37 Ophiuchi. | | | |
|---|---|---|---|
| July 9 | +10 | 46 | 54·9 |
| 12 | | | 54·2 |
| 13 | | | 53·4 |

| Groombridge 2427. | | | |
|---|---|---|---|
| June 22 | +75 | 30 | 47·4 |
| 28 | | | 47·3 |
| 29 | | | 47·2 |

| Groombridge 2427 S.P. | | | |
|---|---|---|---|
| Jan. 6 | +75 | 30 | 45·0 |
| 8 | | | 45·6 |
| 20 | | | 45·2 |

| α Herculis. | ° | ′ | ″ |
|---|---|---|---|
| July 21 | +14 | 34 | 32·3 |
| 22 | | | 32·1 |
| 23 | | | 31·4 |
| 26 | | | 33·5 |
| 27 | | | 32·0 |

| 41 Ophiuchi. | | | |
|---|---|---|---|
| July 12 | − 0 | 15 | 40·7 |
| 13 | | | 40·4 |
| 14 | | | 40·2 |

| δ Herculis. | | | |
|---|---|---|---|
| July 9 | +25 | 1 | 48·8 |
| 15 | | | 47·6 |
| 16 | | | 48·3 |

| π Herculis. | | | |
|---|---|---|---|
| June 22 | +36 | 59 | 27·6 |
| 28 | | | 27·4 |
| 29 | | | 28·5 |

| 69 Herculis. | | | |
|---|---|---|---|
| June 22 | +37 | 27 | 39·6 |

| 70 Herculis. | | | |
|---|---|---|---|
| June 22 | +24 | 39 | 41·7 |
| 28 | | | 40·9 |
| 29 | | | 42·2 |

| ϱ Herculis, following. | | | |
|---|---|---|---|
| June 22 | +37 | 17 | 41·4 |
| 28 | | | 40·4 |
| 29 | | | 41·9 |

| σ Ophiuchi. | | | |
|---|---|---|---|
| July 9 | + 4 | 16 | 59·8 |
| 12 | | | 59·0 |
| 13 | | | 59·5 |

| A.S.C. 2003. | | | |
|---|---|---|---|
| July 14 | +20 | 13 | 13·4 |
| 15 | | | 12·7 |
| 16 | | | 13·6 |

| Star | Date | | ° | ′ | ″ |
|---|---|---|---|---|---|
| A.S.C. 2008. | June | 22 | + 2 | 50 | 55·3 |
| | | 28 | | | 55·6 |
| | | 29 | | | 55·4 |
| λ Herculis. | July | 9 | +26 | 14 | 3·4 |
| | | 12 | | | 3·1 |
| | | 13 | | | 3·4 |
| 78 Herculis. | June | 22 | +28 | 31 | 34·2 |
| | | 28 | | | 34·9 |
| | | 29 | | | 35·9 |
| 54 Ophiuchi. | July | 9 | +13 | 16 | 28·9 |
| | | 12 | | | 27·8 |
| | | 13 | | | 27·4 |
| α Ophiuchi. | July | 21 | +12 | 40 | 48·3 |
| | | 22 | | | 48·8 |
| | | 23 | | | 47·5 |
| | | 26 | | | 49·2 |
| | | 29 | | | 48·8 |
| $\nu^1$ Draconis. | July | 9 | +55 | 17 | 39·7 |
| | | 12 | | | 39·5 |
| | | 13 | | | 39·1 |
| $\nu^2$ Draconis. | July | 14 | +55 | 16 | 57·4 |
| | | 15 | | | 57·6 |
| | | 16 | | | 57·8 |
| μ Ophiuchi. | June | 22 | − 8 | 0 | 58·2 |
| | | 28 | | | 58·5 |
| | | 29 | | | 59·7 |
| ι Herculis. | June | 22 | +46 | 5 | 37·0 |
| β Ophiuchi. | June | 24 | + 4 | 38 | 22·5 |
| | | 29 | | | 20·6 |
| 84 Herculis. | July | 1 | +24 | 24 | 3·3 |
| | | 9 | | | 4·2 |
| | | 12 | | | 2·7 |
| ω Draconis. | June | 22 | +68 | 49 | 51·2 |
| | July | 13 | | | 49·7 |
| | | 14 | | | 49·3 |
| γ Ophiuchi. | June | 23 | + 2 | 46 | 20·8 |
| | | 29 | | | 21·1 |
| 87 Herculis. | June | 22 | +25 | 40 | 47·3 |
| | | 23 | | | 47·7 |
| | | 29 | | | 46·9 |
| A.S.C. 2051. | June | 22 | − 4 | 3 | 8·9 |
| | | 23 | | | 10·3 |
| | | 29 | | | 10·7 |
| 89 Herculis. | June | 28 | +26 | 4 | 47·3 |
| | July | 1 | | | 45·3 |
| | | 8 | | | 47·1 |
| θ Herculis. | June | 22 | +37 | 16 | 30·1 |
| | | 23 | | | 30·5 |
| ξ Herculis. | June | 28 | +29 | 16 | 10·0 |
| | | 29 | | | 9·5 |
| | July | 1 | | | 10·0 |
| ζ Serpentis. | July | 8 | − 3 | 40 | 26·1 |
| | | 9 | | | 24·5 |
| | | 14 | | | 24·7 |
| ν Herculis. | July | 12 | +30 | 12 | 24·0 |
| | | 22 | | | 24·0 |
| | | 23 | | | 23·5 |
| 66 Ophiuchi. | July | 15 | + 4 | 22 | 59·4 |
| | | 16 | | | 60·2 |
| | | 21 | | | 59·7 |
| 67 Ophiuchi. | July | 21 | + 2 | 56 | 42·1 |
| | | 27 | | | 41·7 |
| | | 28 | | | 42·3 |
| 93 Herculis. | July | 22 | +16 | 45 | 53·7 |
| | | 23 | | | 53·3 |
| | | 27 | | | 53·3 |
| 68 Ophiuchi. | June | 22 | + 1 | 18 | 53·8 |
| | | 23 | | | 53·8 |
| | July | 16 | | | 54·2 |
| σ Ophiuchi. | June | 29 | − 8 | 10 | 25·5 |
| | July | 13 | | | 25·8 |
| | | 14 | | | 25·2 |
| 95 Herculis, preceding. | June | 28 | +21 | 36 | 3·5 |
| | July | 1 | | | 3·0 |
| | | 8 | | | 3·1 |
| 96 Herculis. | July | 9 | +20 | 50 | 16·1 |
| | | 14 | | | 16·4 |
| | | 15 | | | 16·8 |
| 97 Herculis. | June | 22 | +22 | 55 | 36·8 |
| | | 23 | | | 36·7 |
| | July | 13 | | | 36·1 |
| 70 Ophiuchi, preceding. | June | 28 | + 2 | 32 | 33·4 |
| | | 29 | | | 34·8 |
| | July | 1 | | | 33·7 |
| 98 Herculis. | June | 22 | +22 | 12 | 33·0 |
| | | 23 | | | 30·3 |
| | July | 1 | | | 32·5 |
| 71 Ophiuchi. | June | 29 | + 8 | 43 | 9·8 |
| | July | 9 | | | 8·9 |
| | | 13 | | | 9·4 |
| 72 Ophiuchi. | July | 14 | + 9 | 32 | 49·2 |
| | | 15 | | | 49·4 |
| 73 Ophiuchi. | June | 22 | + 3 | 58 | 20·7 |
| 102 Herculis. | June | 23 | +20 | 47 | 39·9 |
| | | 28 | | | 38·9 |
| | July | 8 | | | 39·7 |
| 101 Herculis. | July | 13 | +20 | 1 | 30·9 |
| | | 14 | | | 30·8 |
| | | 15 | | | 30·3 |
| $\mu^1$ Sagittari. | June | 23 | −21 | 5 | 36·4 |
| | | 29 | | | 34·6 |
| | July | 1 | | | 33·1 |
| | | 9 | | | 37·0 |
| | | 13 | | | 37·5 |
| 104 Herculis. | June | 22 | +31 | 22 | 12·8 |
| | | 28 | | | 12·5 |
| | July | 8 | | | 11·9 |
| 40 Draconis. | June | 23 | +79 | 58 | 21·2 |
| | | 29 | | | 21·9 |
| | July | 1 | | | 20·9 |
| 40 Draconis S.P. | Jan. | 20 | +79 | 58 | 19·5 |
| | | 27 | | | 19·0 |
| | | 29 | | | 19·2 |
| 41 Draconis S.P. | Jan. | 17 | +79 | 58 | 21·9 |
| 74 Ophiuchi. | July | 9 | + 3 | 18 | 44·9 |
| 36 Draconis. | July | 8 | +64 | 20 | 40·1 |
| | | 15 | | | 39·5 |
| | | 16 | | | 40·0 |
| η Serpentis. | July | 13 | − 2 | 56 | 2·7 |
| | | 14 | | | 3·4 |
| 106 Herculis. | July | 21 | +21 | 53 | 57·7 |
| | | 22 | | | 57·1 |
| | | 23 | | | 56·2 |
| κ Lyræ. | June | 23 | +35 | 59 | 49·7 |
| | July | 27 | | | 48·7 |
| 107 Herculis. | July | 21 | +28 | 47 | 56·6 |
| | | 22 | | | 56·7 |
| | | 23 | | | 56·1 |
| A.S.C. 2117. | July | 9 | +23 | 12 | 36·3 |
| | | 16 | | | 35·0 |
| | | 29 | | | 34·9 |

109 Herculis.

| | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 22 | +21 | 42 | 10·4 |
| | 23 | | | 9·9 |
| July | 1 | | | 9·2 |

59 Serpentis, following.

| | | | | |
|---|---|---|---|---|
| June | 22 | + 0 | 6 | 29·6 |
| | 23 | | | 28·5 |
| July | 9 | | | 28·2 |

A.S.C. 2134.

| | | | | |
|---|---|---|---|---|
| June | 22 | +23 | 45 | 57·9 |
| | 23 | | | 57·1 |
| July | 1 | | | 57·3 |

δ Ursæ Minoris.

| | | | | |
|---|---|---|---|---|
| Jan. | 1 | +86 | 35 | 35·1 |
| | 6 | | | 35·5 |
| | 7 | | | 36·1 |
| June | 22 | | | 35·1 |
| | 23 | | | 34·7 |
| | 28 | | | 33·0 |
| July | 8 | | | 33·9 |
| | 9 | | | 34·6 |
| | 14 | | | 34·3 |
| | 15 | | | 34·5 |
| | 16 | | | 34·5 |
| | 21 | | | 34·6 |
| | 22 | | | 34·7 |
| | 23 | | | 34·4 |
| | 26 | | | 35·2 |
| | 27 | | | 34·3 |
| | 28 | | | 34·7 |
| | 29 | | | 33·4 |
| | 30 | | | 33·9 |
| Aug. | 2 | | | 33·5 |
| | 3 | | | 33·5 |
| | 4 | | | 34·0 |
| | 5 | | | 34·8 |
| | 6 | | | 34·7 |
| | 9 | | | 34·0 |
| | 13 | | | 34·6 |
| | 16 | | | 33·7 |
| | 17 | | | 33·3 |
| | 20 | | | 33·7 |
| | 22 | | | 34·7 |
| | 24 | | | 34·5 |
| | 25 | | | 35·2 |
| | 27 | | | 34·0 |
| Sept. | 12 | | | 36·0 |
| Oct. | 19 | | | 35·0 |

δ Ursæ Minoris.

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Oct. | 20 | +86 | 35 | 34·8 |
| | 21 | | | 34·7 |
| | 24 | | | 35·6 |
| Nov. | 9 | | | 34·9 |
| | 14 | | | 35·3 |
| | 23 | | | 35·9 |
| | 30 | | | 34·6 |
| Dec. | 17 | | | 35·5 |
| | 23 | | | 35·2 |
| | 24 | | | 36·0 |
| | 26 | | | 35·6 |
| | 27 | | | 36·4 |
| | 28 | | | 35·5 |
| | 30 | | | 36·7 |

δ Ursæ Minoris S.P.

| | | | | |
|---|---|---|---|---|
| Jan. | 17 | +86 | 35 | 32·3 |
| | 24 | | | 33·8 |
| | 25 | | | 32·8 |
| | 27 | | | 32·3 |
| | 29 | | | 32·1 |
| | 31 | | | 32·4 |
| Feb. | 1 | | | 33·3 |
| | 2 | | | 32·7 |
| | 3 | | | 33·1 |
| | 4 | | | 31·5 |
| | 11 | | | 33·1 |
| | 12 | | | 32·8 |
| | 15 | | | 33·9 |
| | 16 | | | 32·6 |
| Mar. | 19 | | | 33·2 |
| Apr. | 16 | | | 32·1 |
| Aug. | 30 | | | 35·0 |
| Dec. | 18 | | | 34·3 |

χ Draconis.

| | | | | |
|---|---|---|---|---|
| July | 8 | +72 | 39 | 45·1 |

A.S.C. 2146.

| | | | | |
|---|---|---|---|---|
| June | 22 | +23 | 30 | 14·0 |
| | 23 | | | 14·3 |
| July | 9 | | | 14·2 |

1 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 14 | − 8 | 20 | 54·9 |
| | 22 | | | 55·6 |
| | 28 | | | 56·1 |

4 Aquilæ.

| | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 22 | + 1 | 54 | 19·0 |
| | 23 | | | 19·2 |
| July | 9 | | | 18·9 |

6 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 13 | − 4 | 54 | 40·5 |
| | 14 | | | 40·0 |
| | 15 | | | 39·5 |

110 Herculis.

| | | | | |
|---|---|---|---|---|
| July | 16 | +20 | 23 | 59·2 |
| | 27 | | | 59·3 |
| | 28 | | | 59·4 |

ε Lyræ, preceding.

| | | | | |
|---|---|---|---|---|
| July | 21 | +39 | 30 | 28·7 |
| | 23 | | | 28·5 |

5 Lyræ, preceding.

| | | | | |
|---|---|---|---|---|
| July | 15 | +39 | 27 | 3·3 |
| | 21 | | | 4·4 |
| | 22 | | | 4·0 |

$\zeta^1$ Lyræ.

| | | | | |
|---|---|---|---|---|
| June | 22 | +37 | 26 | 38·9 |
| | 23 | | | 37·4 |
| July | 9 | | | 36·8 |

46 Draconis.

| | | | | |
|---|---|---|---|---|
| July | 16 | +55 | 22 | 53·7 |
| Aug. | 5 | | | 53·4 |
| | 9 | | | 53·3 |

β Lyræ.

| | | | | |
|---|---|---|---|---|
| Jan. | 1 | +33 | 10 | 59·0 |
| June | 22 | | | 60·2 |
| | 23 | | | 59·5 |
| July | 1 | | | 59·0 |
| | 29 | | | 59·2 |

62 Serpentis.

| | | | | |
|---|---|---|---|---|
| June | 22 | + 6 | 25 | 23·4 |
| | 23 | | | 23·4 |

113 Herculis.

| | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 9 | +22 | 26 | 57·5 |
| | 13 | | | 58·1 |
| | 14 | | | 58·6 |

$\theta^1$ Serpentis.

| | | | | |
|---|---|---|---|---|
| July | 15 | + 4 | 0 | 11·5 |
| | 16 | | | 13·0 |
| | 21 | | | 13·0 |

$\theta^2$ Serpentis.

| | | | | |
|---|---|---|---|---|
| July | 15 | + 4 | 0 | 5·6 |
| | 16 | | | 6·9 |
| | 21 | | | 7·4 |

9 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 22 | − 6 | 2 | 43·5 |
| | 23 | | | 42·9 |
| | 27 | | | 43·9 |

ο Draconis.

| | | | | |
|---|---|---|---|---|
| Aug. | 5 | +59 | 11 | 48·1 |
| | 13 | | | 47·7 |
| | 16 | | | 47·9 |

$\delta^2$ Lyræ.

| | | | | |
|---|---|---|---|---|
| July | 28 | +36 | 42 | 5·5 |
| Aug. | 2 | | | 5·1 |
| | 3 | | | 4·8 |

64 Serpentis.

| | | | | |
|---|---|---|---|---|
| July | 27 | + 2 | 20 | 0·5 |
| | 29 | | | 0·9 |
| | 30 | | | 0·6 |

12 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 9 | − 5 | 57 | 18·4 |
| | 13 | | | 20·6 |
| | 14 | | | 20·0 |

48 Draconis.

| | | | | |
|---|---|---|---|---|
| June | 29 | +57 | 36 | 25·6 |
| July | 15 | | | 25·0 |
| | 16 | | | 25·1 |

14 Aquilæ.

| | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | − 3 | 55 | 18·4 |
| | 22 | | | 20·5 |
| | 23 | | | 19·9 |

15 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 9 | − 4 | 15 | 37·3 |
| | 13 | | | 39·1 |
| | 14 | | | 37·9 |

λ Aquilæ.

| | | | | |
|---|---|---|---|---|
| June | 23 | − 5 | 6 | 48·2 |
| July | 15 | | | 50·1 |
| | 16 | | | 48·2 |

18 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 9 | +10 | 49 | 60·0 |
| | 13 | | | 59·1 |
| | 14 | | | 59·5 |

η Lyræ.

| | | | | |
|---|---|---|---|---|
| July | 14 | +38 | 52 | 39·2 |

1 Sagittæ.

| | | | | |
|---|---|---|---|---|
| June | 29 | +20 | 57 | 38·6 |
| July | 13 | | | 36·7 |

53 Draconis.

| | | | | |
|---|---|---|---|---|
| July | 30 | +56 | 35 | 28·6 |
| Aug. | 2 | | | 30·0 |
| | 3 | | | 30·1 |

22 Aquilæ.

| | | | | |
|---|---|---|---|---|
| July | 15 | + 4 | 33 | 40·9 |
| | 16 | | | 40·7 |
| | 21 | | | 42·1 |

1 Vulpeculæ.

| | | | | |
|---|---|---|---|---|
| July | 9 | +21 | 6 | 56·3 |
| | 28 | | | 57·7 |
| | 29 | | | 58·5 |

| 54 Draconis. | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 29 | +57 | 26 | 3·4 |
| July | 14 | | | 3·4 |
| | 15 | | | 4·3 |

| 26 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 9 | − 5 | 42 | 18·9 |
| | 28 | | | 18·3 |
| | 29 | | | 18·2 |

| ϰ Cygni. | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 23 | +53 | 4 | 45·7 |

| 59 Draconis. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 9 | +76 | 17 | 37·8 |
| | 21 | | | 37·4 |
| | 22 | | | 37·0 |

| 59 Draconis S.P. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 25 | +76 | 17 | 35·9 |
| | 27 | | | 34·4 |
| | 31 | | | 34·7 |

| 3 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 23 | +25 | 57 | 48·8 |
| | 29 | | | 47·9 |
| July | 23 | | | 47·6 |

| 31 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 16 | +11 | 36 | 42·8 |
| | 21 | | | 41·6 |
| | 22 | | | 41·9 |

| δ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 3 | + 2 | 48 | 18·3 |
| | 4 | | | 18·5 |
| | 5 | | | 19·9 |
| | 6 | | | 18·9 |
| | 9 | | | 17·6 |

| ν Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | + 0 | 1 | 45·1 |
| | 29 | | | 45·1 |
| | 30 | | | 44·8 |

| τ Draconis. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 2 | +73 | 3 | 37·1 |

| 3 Cygni. | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 23 | +24 | 37 | 55·9 |
| July | 23 | | | 54·7 |
| | 28 | | | 55·0 |

| 8 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| June | 23 | +24 | 26 | 50·1 |
| July | 21 | | | 50·2 |
| | 22 | | | 50·2 |

| A.S.C. 2283. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +20 | 35 | 54·4 |
| | 22 | | | 53·2 |
| | 23 | | | 52·7 |

| ι Cgyni. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | +51 | 23 | 45·0 |
| | 29 | | | 43·5 |
| | 30 | | | 44·0 |

| μ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 4 | + 7 | 2 | 53·1 |

| 37 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 2 | −10 | 53 | 59·1 |
| | 3 | | | 58·6 |
| | 5 | | | 57·6 |

| 9 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +19 | 25 | 59·0 |
| | 22 | | | 59·9 |
| | 23 | | | 58·6 |

| ϰ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | − 7 | 22 | 22·9 |

| ι Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 29 | − 1 | 37 | 51·5 |
| | 30 | | | 51·8 |
| Aug. | 2 | | | 52·4 |

| 9 Cgyni. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 3 | +29 | 7 | 9·8 |
| | 4 | | | 10·8 |
| | 5 | | | 10·6 |

| 42 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 23 | − 4 | 59 | 40·1 |
| Aug. | 6 | | | 39·9 |
| | 9 | | | 41·2 |
| | 13 | | | 39·3 |

| θ Cygni. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +49 | 51 | 28·3 |
| | 22 | | | 28·5 |

| 45 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 23 | − 0 | 58 | 54·2 |
| | 28 | | | 53·9 |
| | 29 | | | 54·0 |

| σ Draconis. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 4 | +69 | 23 | 31·2 |
| | 5 | | | 31·7 |
| | 6 | | | 31·8 |

| α Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 30 | +17 | 39 | 20·0 |
| Aug. | 2 | | | 18·9 |
| | 3 | | | 17·5 |

| φ Cygni. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 9 | +29 | 47 | 34·4 |
| | 13 | | | 34·6 |
| | 16 | | | 34·6 |

| β Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 17 | +17 | 6 | 52·1 |
| | 19 | | | 53·5 |

| χ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +11 | 27 | 34·8 |
| | 22 | | | 35·6 |
| | 23 | | | 33·9 |

| 10 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | +25 | 23 | 52·3 |
| | 29 | | | 51·1 |
| | 30 | | | 52·3 |

| A.S.C. 2315. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +26 | 45 | 40·5 |
| | 22 | | | 41·0 |
| | 23 | | | 39·9 |

| ζ Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 22 | +18 | 45 | 2·3 |
| | 23 | | | 1·5 |

| α Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 3 | + 8 | 27 | 21·1 |
| | 4 | | | 21·5 |
| | 7 | | | 20·9 |
| | 8 | | | 19·7 |
| Aug. | 9 | | | 21·1 |

| 54 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | +10 | 1 | 31·6 |
| | 29 | | | 30·7 |
| | 30 | | | 31·5 |

| 12 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 23 | +22 | 12 | 45·6 |
| Aug. | 2 | | | 44·4 |
| | 3 | | | 44·4 |

| η Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 22 | + 0 | 36 | 19·3 |

| 56 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | − 8 | 58 | 43·3 |
| Aug. | 4 | | | 43·2 |
| | 5 | | | 42·8 |

| ξ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | + 8 | 3 | 26·8 |
| | 29 | | | 27·5 |
| | 30 | | | 27·7 |

| 58 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 2 | − 0 | 8 | 2·4 |
| | 6 | | | 3·4 |
| | 12 | | | 3·9 |

| 13 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 23 | +23 | 40 | 17·9 |
| Aug. | 3 | | | 18·5 |
| | 13 | | | 18·2 |

| φ Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 22 | +11 | 0 | 33·7 |

| 10 Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +16 | 13 | 14·3 |
| | 23 | | | 13·6 |
| | 28 | | | 14·6 |

| χ Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +17 | 5 | 21·1 |
| | 22 | | | 21·7 |
| | 23 | | | 20·6 |

| A.S.C. 2358. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 28 | +24 | 21 | 57·6 |
| | 29 | | | 57·6 |
| | 30 | | | 56·0 |

| 16 Vulpeculæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| July | 21 | +24 | 29 | 59·1 |
| | 22 | | | 60·1 |
| | 23 | | | 58·7 |

| 62 Aquilæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 2 | − 1 | 8 | 40·1 |
| | 5 | | | 39·5 |
| | 6 | | | 40·8 |

| 14 Sagittæ. | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 3 | +15 | 35 | 32·2 |
| | 4 | | | 31·7 |
| | 12 | | | 31·4 |

**15 Sagittæ.**

| | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| July | 28 | +16 | 38 | 46·8 |
| Aug. | 13 | | | 47·2 |
| | 16 | | | 46·5 |

**64 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 21 | − 1 | 7 | 40·0 |
| | 22 | | | 40·0 |
| | 23 | | | 39·9 |

**69 Draconis.**

| | | | | |
|---|---|---|---|---|
| July | 21 | +76 | 2 | 17·0 |
| | 22 | | | 16·6 |
| | 23 | | | 16·5 |

**69 Draconis S.P.**

| | | | | |
|---|---|---|---|---|
| Feb. | 15 | +76 | 2 | 14·6 |
| | 16 | | | 14·3 |
| | 26 | | | 15·9 |

**20 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 5 | +26 | 0 | 40·1 |
| | 6 | | | 39·3 |
| | 9 | | | 39·4 |

**21 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| July | 23 | +28 | 13 | 10·8 |
| Aug. | 5 | | | 12·2 |
| | 6 | | | 10·9 |

**$o^2$ Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 9 | +46 | 15 | 53·9 |
| | 18 | | | 53·3 |
| | 20 | | | 53·8 |

**22 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 12 | +23 | 1 | 47·8 |
| | 13 | | | 47·8 |
| | 15 | | | 47·7 |

**23 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 12 | +27 | 19 | 58·6 |
| | 13 | | | 59·7 |
| | 15 | | | 60·1 |

**$\alpha^2$ Capricorni.**

| | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| July | 21 | −13 | 1 | 45·5 |
| | 22 | | | 44·2 |
| Aug. | 16 | | | 45·1 |
| | 17 | | | 46·7 |
| | 19 | | | 45·4 |

**18 Sagittæ.**

| | | | | |
|---|---|---|---|---|
| July | 23 | +21 | 7 | 3·7 |
| Aug. | 5 | | | 5·6 |
| | 6 | | | 4·9 |

**$\beta^2$ Capricorni.**

| | | | | |
|---|---|---|---|---|
| Oct. | 11 | −15 | 16 | 29·8 |

**ϱ Capricorni.**

| | | | | |
|---|---|---|---|---|
| July | 21 | −18 | 19 | 50·6 |
| | 22 | | | 51·0 |
| Oct. | 11 | | | 49·6 |

**λ Ursæ Minoris.**

| | | | | |
|---|---|---|---|---|
| July | 23 | +88 | 50 | 8·8 |
| Aug. | 12 | | | 8·4 |
| | 15 | | | 7·7 |
| | 16 | | | 7·4 |
| | 18 | | | 8·6 |

**λ Ursæ Minoris S.P.**

| | | | | |
|---|---|---|---|---|
| Jan. | 27 | +88 | 50 | 6·8 |
| Feb. | 15 | | | 6·4 |
| | 16 | | | 7·9 |
| | 26 | | | 8·2 |
| Mar. | 2 | | | 8·5 |

**$\omega^3$ Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 13 | +48 | 41 | 22·9 |
| | 15 | | | 23·0 |
| | 16 | | | 22·7 |

**η Delphini.**

| | | | | |
|---|---|---|---|---|
| July | 22 | +12 | 29 | 25·1 |
| | 23 | | | 24·1 |
| Aug. | 12 | | | 23·6 |

**ζ Delphini.**

| | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Aug. | 17 | +14 | 8 | 0·2 |
| | 18 | | | 0·3 |
| | 19 | | | 0·4 |

**70 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| July | 23 | − 3 | 5 | 34·7 |
| Aug. | 12 | | | 34·5 |
| | 13 | | | 33·4 |

**71 Aquilæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 15 | − 1 | 39 | 8·9 |
| | 16 | | | 9·0 |
| | 17 | | | 10·3 |

**υ Capricorni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 19 | +18 | 41 | 24·9 |

**ϰ Delphini.**

| | | | | |
|---|---|---|---|---|
| July | 23 | + 9 | 32 | 2·2 |

**29 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 12 | +20 | 39 | 1·7 |
| | 13 | | | 1·5 |
| | 18 | | | 1·7 |

**A.S.C. 2440.**

| | | | | |
|---|---|---|---|---|
| Aug. | 15 | +29 | 47 | 4·5 |
| | 16 | | | 4·4 |
| | 17 | | | 2·3 |

**10 Delphini.**

| | | | | |
|---|---|---|---|---|
| July | 23 | +14 | 1 | 28·0 |
| Aug. | 12 | | | 28·1 |

**δ Delphini.**

| | | | | |
|---|---|---|---|---|
| July | 23 | +14 | 30 | 42·6 |
| Aug. | 12 | | | 42·4 |

**4 Aquarii.**

| | | | | |
|---|---|---|---|---|
| Aug. | 16 | − 6 | 12 | 47·4 |

**5 Aquarii.**

| | | | | |
|---|---|---|---|---|
| | | ° | ′ | ° |
| Aug. | 17 | − 6 | 5 | 44·6 |
| | 20 | | | 43·5 |
| | 24 | | | 43·7 |

**μ Aquarii.**

| | | | | |
|---|---|---|---|---|
| July | 22 | − 9 | 34 | 16·8 |
| | 23 | | | 17·1 |
| Aug. | 18 | | | 19·6 |
| | 19 | | | 18·6 |

**31 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 15 | +26 | 30 | 33·7 |
| | 16 | | | 33·0 |

**57 Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 16 | +43 | 47 | 29·3 |
| | 17 | | | 29·5 |
| | 18 | | | 28·8 |

**A.S.C. 2476, following.**

| | | | | |
|---|---|---|---|---|
| July | 22 | + 3 | 55 | 60·0 |
| | 23 | | | 59·2 |
| Aug. | 15 | | | 60·8 |

**32 Vulpeculæ.**

| | | | | |
|---|---|---|---|---|
| Aug. | 17 | +27 | 27 | 35·1 |
| | 18 | | | 35·5 |
| | 20 | | | 36·6 |

**χ Delphini.**

| | | | | |
|---|---|---|---|---|
| Aug. | 22 | +11 | 58 | 4·9 |
| | 24 | | | 5·6 |

**μ Delphini.**

| | | | | |
|---|---|---|---|---|
| Aug. | 19 | +13 | 7 | 21·8 |
| | 30 | | | 21·1 |
| Sept. | 9 | | | 20·7 |

**λ Equulei, following.**

| | | | | |
|---|---|---|---|---|
| July | 22 | + 6 | 33 | 46·8 |
| | 23 | | | 47·3 |

**12 Aquarii, North.**

| | | | | |
|---|---|---|---|---|
| | | ° | ′ | ″ |
| Aug. | 19 | − 6 | 26 | 40·7 |
| | 20 | | | 39·1 |

**θ Capricorni.**

| | | | | |
|---|---|---|---|---|
| Oct. | 12 | −17 | 51 | 20·5 |

**61$^1$ Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | +37 | 58 | 32·5 |
| | 22 | | | 32·8 |
| | 24 | | | 33·2 |
| | 30 | | | 32·9 |
| Sept. | 17 | | | 32·9 |

**61$^2$ Cygni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | +37 | 58 | 30·5 |
| | 22 | | | 30·7 |
| | 24 | | | 30·8 |
| | 30 | | | 31·1 |
| Sept. | 17 | | | 31·2 |

**29 Capricorni.**

| | | | | |
|---|---|---|---|---|
| July | 22 | −15 | 49 | 25·6 |
| | 23 | | | 26·4 |
| Oct. | 12 | | | 23·7 |

**77 Draconis.**

| | | | | |
|---|---|---|---|---|
| Aug. | 19 | +77 | 29 | 2·5 |
| | 20 | | | 2·0 |
| | 22 | | | 2·5 |

**77 Draconis S.P.**

| | | | | |
|---|---|---|---|---|
| Feb. | 18 | +77 | 29 | 0·3 |
| | 26 | | | 2·0 |
| Mar. | 2 | | | 1·6 |

**ι Capricorni.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | −17 | 30 | 10·7 |
| Nov. | 9 | | | 10·5 |

**α Cephei.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | +61 | 55 | 4·1 |
| | 6 | | | 4·2 |
| | 7 | | | 4·1 |
| | 19 | | | 3·4 |
| | 21 | | | 4·5 |

**21 Aquarii.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 19 | − 4 | 13 | 49·7 |
| | 20 | | | 49·1 |

**β Aquarii.**

| | | | | |
|---|---|---|---|---|
| Aug. | 19 | − 6 | 15 | 44·7 |
| | 20 | | | 44·5 |
| Nov. | 9 | | | 44·2 |

**β Cephei.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | +69 | 52 | 6·4 |
| | 6 | | | 6·3 |
| | 7 | | | 6·2 |
| | 25 | | | 6·2 |
| | 28 | | | 6·7 |

**λ Capricorni.**

| | | | | |
|---|---|---|---|---|
| July | 23 | −12 | 5 | 28·1 |

**12 Pegasi.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | +22 | 13 | 23·5 |

**11 Pegasi.**

| | | | | |
|---|---|---|---|---|
| Aug. | 21 | + 1 | 57 | 31·7 |

**32 Aquarii.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | − 1 | 40 | 2·1 |

**α Aquarii.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 4 | − 1 | 5 | 2·8 |
| Aug. | 22 | | | 3·2 |
| Sept. | 8 | | | 4·3 |
| | 20 | | | 4·1 |
| | 28 | | | 4·0 |

**ι Aquarii.**

| | | | | |
|---|---|---|---|---|
| Sept. | 17 | −14 | 37 | 58·6 |

**ξ Cephei, following.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | +63 | 51 | 33·6 |
| | 21 | | | 33·7 |

**Groombridge 3707.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | +82 | 6 | 27·0 |
| Sept. | 8 | | | 26·7 |
| | 17 | | | 27·2 |

**Groombridge 3707 S.P.**

| | | | | |
|---|---|---|---|---|
| Mar. | 9 | +82 | 6 | 24·6 |
| | 17 | | | 25·9 |
| | 18 | | | 25·8 |

**θ Aquarii.**

| | | | | |
|---|---|---|---|---|
| Aug. | 20 | − 8 | 34 | 2·5 |
| Sept. | 17 | | | 2·4 |

**4 Lacertæ.**

| | | | | |
|---|---|---|---|---|
| Sept. | 8 | +48 | 40 | 37·2 |
| | 20 | | | 37·8 |

**λ Aquarii.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Aug. | 22 | − 8 | 25 | 5·6 |
| Sept. | 17 | | | 6·2 |

**3 Piscium.**

| | | | | |
|---|---|---|---|---|
| Sept. | 17 | − 0 | 39 | 37·8 |

**Piazzi XXII. 295.**

| | | | | |
|---|---|---|---|---|
| Jan. | 5 | +83 | 30 | 2·8 |
| | 6 | | | 2·7 |
| | 7 | | | 3·3 |

**Piazzi XXII. 295 S.P.**

| | | | | |
|---|---|---|---|---|
| Mar. | 17 | +83 | 30 | 0·4 |
| | 18 | | | 0·0 |
| | 19 | | | 0·2 |

**β Piscium.**

| | | | | |
|---|---|---|---|---|
| Aug. | 22 | + 2 | 58 | 16·1 |

**α Pegasi.**

| | | | | |
|---|---|---|---|---|
| Jan. | 4 | +14 | 21 | 24·9 |
| | 6 | | | 25·1 |
| | 18 | | | 24·2 |
| | 20 | | | 24·5 |
| | 25 | | | 24·9 |

**ϰ¹ Piscium.**

| | | | | |
|---|---|---|---|---|
| Sept. | 18 | + 0 | 23 | 31·0 |

**69 Pegasi.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Jan. | 4 | +24 | 18 | 1·0 |

**ι Piscium.**

| | | | | |
|---|---|---|---|---|
| Sept. | 18 | + 4 | 46 | 16·5 |

**ϰ Andromedæ.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | +43 | 27 | 34·3 |
| | 4 | | | 34·6 |

**γ Cephei.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | +76 | 45 | 3·6 |
| | 20 | | | 4·0 |
| | 21 | | | 4·4 |
| | 25 | | | 4·3 |
| | 27 | | | 4·7 |

**γ Cephei S.P.**

| | | | | |
|---|---|---|---|---|
| Mar. | 26 | +76 | 45 | 1·5 |
| | 28 | | | 1·5 |
| | 30 | | | 1·6 |
| Apr. | 2 | | | 1·7 |
| | 4 | | | 0·4 |

**103 Aquarii.**

| | | | | |
|---|---|---|---|---|
| Jan. | 5 | −18 | 53 | 57·1 |
| | 7 | | | 58·9 |
| Sept. | 17 | | | 57·8 |

**104 Aquarii.**

| | | ° | ′ | ″ |
|---|---|---|---|---|
| Sept. | 26 | −18 | 41 | 32·4 |
| Oct. | 7 | | | 31·5 |
| | 11 | | | 27·9 |

**ω² Aquarii.**

| | | | | |
|---|---|---|---|---|
| Jan. | 6 | −15 | 25 | 3·7 |
| | 7 | | | 4·7 |
| Sept. | 28 | | | 5·6 |

**76 Pegasi.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | +15 | 27 | 34·9 |
| | 4 | | | 34·9 |
| | 5 | | | 34·1 |

**A.S.C. 2853.**

| | | | | |
|---|---|---|---|---|
| Jan. | 3 | −15 | 7 | 46·7 |
| | 6 | | | 46·9 |

**23 Piscium.**

| | | | | |
|---|---|---|---|---|
| Jan. | 7 | +20 | 47 | 33·9 |
| Sept. | 17 | | | 35·2 |
| | 20 | | | 34·9 |

**φ Pegasi.**

| | | | | |
|---|---|---|---|---|
| Sept. | 26 | +18 | 14 | 35·4 |
| | 28 | | | 35·2 |
| Oct. | 4 | | | 35·8 |

ROYAL OBSERVATORY, EDINBURGH.

# EXPLANATION

OF THE

# PRECEDING MURAL CIRCLE OBSERVATIONS FOR 1842,

AND

# ELEMENTS FOR THEIR REDUCTION.

## EDINBURGH MURAL CIRCLE OBSERVATIONS FOR 1842.

Pages 128–203 contain the observations made with the Mural Circle, and the calculation of the Apparent Declinations.

The objects chiefly observed were the Sun, Moon, and Planets; the principal Stars, for ascertaining the adjustment and position of the Instrument; the Stars marked in the Nautical Almanac as proper to be observed with the Moon for determining its parallax; Stars contained in the Catalogue of the Royal Astronomical Society, and in Groombridge's Catalogue of Circumpolar Stars.

All these observations were made by the late Professor HENDERSON.

The Telescope was moved round backward on the Circle 25° 50′ on January 1, 1842, and being again fixed to the Circle, remained in this position during the year.

The observations were read off with the two Horizontal Microscopes I. and II. To the mean of two Microscopes a correction is applied, given in the column titled correction, and taken from the following Table, constructed from the formula, investigated in the Introduction to vol. i., p. viii. ix., for reducing angles measured with two Microscopes, to the quantities which would have been obtained from six:—

CORRECTION TO REDUCE THE MEAN OF TWO MICROSCOPES TO THE MEAN OF SIX.

| Readings of either Microscope. | | Correction. | Readings of either Microscope. | | Correction. | Readings of either Microscope. | | Correction. |
|---|---|---|---|---|---|---|---|---|
| 0° | 180° | −0″·55 | 60° | 240° | +0″·08 | 120° | 300° | +0″·48 |
| 5 | 185 | −0·51 | 65 | 245 | +0·08 | 125 | 305 | +0·43 |
| 10 | 190 | −0·45 | 70 | 250 | +0·08 | 130 | 310 | +0·37 |
| 15 | 195 | −0·38 | 75 | 255 | +0·10 | 135 | 315 | +0·27 |
| 20 | 200 | −0·28 | 80 | 260 | +0·13 | 140 | 320 | +0·15 |
| 25 | 205 | −0·19 | 85 | 265 | +0·17 | 145 | 325 | +0·01 |
| 30 | 210 | −0·11 | 90 | 270 | +0·23 | 150 | 330 | −0·12 |
| 35 | 215 | −0·04 | 95 | 275 | +0·29 | 155 | 335 | −0·26 |
| 40 | 220 | +0·02 | 100 | 280 | +0·37 | 160 | 340 | −0·38 |
| 45 | 225 | +0·05 | 105 | 285 | +0·42 | 165 | 345 | −0·47 |
| 50 | 230 | +0·07 | 110 | 290 | +0·46 | 170 | 350 | −0·53 |
| 55 | 235 | +0·07 | 115 | 295 | +0·48 | 175 | 355 | −0·56 |

In reading off the observations, the cross wires of the Microscopes were made to bisect the sets of divisions immediately preceding the zero point of Microscope I., when this Microscope indicated a quantity less than 2′ 30″ to be added to the degrees and minutes of the preceding division; and the sets immediately following the same point, when the quantity indicated to be added was greater than

2′ 30″, except the observations distinguished by asterisks in the column of "Object Observed," in which the reverse rule was followed. The mean values of the runs of the Microscopes for the different portions of the year are given in the following Table, being the means of values found from sets of readings made at the beginning and end of each period.

MEAN VALUE OF THE RUNS OF THE MICROSCOPES.

| Period. | | Mean Value of Runs. |
|---|---|---|
| Beginning. | Ending. | |
| 1842. | 1842. | ″ |
| Jan. 1 | Mar. 21 | 300·11 |
| Mar. 22 | Mar. 28 | 299·95 |
| Mar. 29 | Mar. 31 | 299·97 |
| Apr. 1 | Apr. 6 | 300·12 |
| Apr. 7 | Apr. 14 | 300·47 |
| Apr. 15 | Apr. 22 | 300·20 |
| Apr. 23 | Apr. 30 | 300·08 |
| May 1 | May 13 | 299·98 |
| May 16 | June 7 | 300·38 |
| June 8 | July 2 | 300·76 |
| July 8 | July 9 | 300·81 |
| July 11 | July 16 | 300·90 |
| July 19 | July 25 | 300·88 |
| July 26 | July 30 | 300·95 |
| July 31 | Aug. 6 | 300·78 |
| Aug. 9 | Aug. 16 | 300·53 |
| Aug. 17 | Aug. 31 | 300·40 |
| Sept. 6 | Sept. 26 | 300·37 |
| Sept. 27 | Oct. 8 | 300·35 |
| Oct. 10 | Oct. 17 | 300·17 |
| Oct. 18 | Nov. 1 | 300·22 |
| Nov. 4 | Nov. 25 | 300·27 |
| Nov. 29 | Dec. 23 | 300·28 |
| Dec. 24 | Dec. 31 | 300·02 |

To correct the mean of the readings of the Microscopes for the difference of the runs from 300″, let the mean quantity indicated, to be added to the degrees and minutes of the preceding divisions, be denoted by $m$ when the divisions bisected preceded the zero point of Microscope I., and by $m'$ when they followed this point, and let $r$ denote the mean value of the runs taken from the above Table. Then the correct quantity to be added is

$$\frac{300'' m}{r}, \text{ or, } \frac{300''\,(m' + r - 300'')}{r}.$$

The mean reading of the Circle is found by applying the correction for two

Microscopes to the mean of the Microscopes corrected for runs. The degrees and minutes given under "Mean Reading of the Circle," are those which were under Microscope I.

The observations were made at the transit of the objects over the meridian, unless otherwise mentioned in the notes, where the necessary information is given for determining the horary angle, and thence the reduction to the meridian. The times of the observations are given by the Assistant Clock placed beside the Circle, its rate being sufficiently uniform for reducing the observations. The corrections to be applied to this clock to obtain the true sidereal time are given in the following Table:—

CORRECTIONS OF THE CIRCLE CLOCK.

| Date. | Time by Circle Clock. | Correction. | Date. | Time by Circle Clock. | Correction. | Date. | Time by Circle Clock. | Correction. |
|---|---|---|---|---|---|---|---|---|
| 1842. | h. m. | s. | 1842. | h. m. | s. | 1842. | h. m. | s. |
| Jan. 1 | 19 47 | −23·7 | Feb. 11 | 21 54 | + 5·6 | Mar. 19 | 0 17 | +27·1 |
| 3 | 19 7 | −17·9 | 12 | 22 39 | + 6·8 | 21 | 0 7 | +28·6 |
| 4 | 19 7 | −16·3 | 14 | 22 8 | + 9·5 | 22 | 0 8 | +29·1 |
| 5 | 19 5 | −15·3 | 15 | 22 4 | +11·5 | 23 | 0 36 | +29·2 |
| 6 | 19 28 | −15·4 | 16 | 22 5 | +13·0 | 24 | 0 38 | +28·8 |
| 7 | 19 22 | −16·1 | 17 | 22 11 | +14·2 | 25 | 0 22 | +28·3 |
| 8 | 19 27 | −16·1 | 18 | 22 14 | +15·8 | 26 | 0 33 | +27·6 |
| 11 | 21 19 | −18·6 | 19 | 22 16 | +17·3 | 28 | 0 36 | +23·8 |
| 12 | 19 44 | −19·9 | 21 | 22 27 | +19·0 | 29 | 0 36 | +23·0 |
| 15 | 19 54 | −25·1 | 22 | 22 31 | +18·8 | 30 | 0 44 | +21·9 |
| 17 | 20 6 | −28·8 | 23 | 22 36 | +18·5 | 31 | 0 49 | +21·6 |
| 18 | 20 13 | −29·3 | 24 | 22 53 | +18·2 | Apr. 1 | 0 50 | +20·6 |
| 19 | 20 12 | −29·3 | 25 | 0 2 | +17·4 | 2 | 0 50 | +19·5 |
| 20 | 20 17 | −28·3 | 26 | 22 42 | +16·4 | 4 | 1 8 | +15·4 |
| 21 | 21 4 | −27·3 | 28 | 23 6 | +15·1 | 5 | 1 7 | +13·1 |
| 22 | 23 49 | −26·8 | Mar. 1 | 22 58 | +13·8 | 6 | 1 8 | +11·2 |
| 24 | 21 7 | −26·1 | 2 | 0 51 | +13·6 | 8 | 1 15 | + 7·3 |
| 25 | 21 16 | −26·1 | 3 | 23 13 | +13·2 | 9 | 1 17 | + 6·1 |
| (*a*) 26 | 21 34 | + 0·2 | 4 | 23 7 | +13·2 | 11 | 1 27 | + 4·3 |
| 27 | 23 38 | − 0·4 | 5 | 23 8 | +13·8 | 12 | 1 30 | + 3·7 |
| 28 | 21 46 | − 0·8 | 7 | 23 20 | +16·6 | 13 | 1 33 | + 2·5 |
| 29 | 0 42 | − 0·5 | 8 | 23 24 | +18·2 | 14 | 1 38 | + 0·5 |
| 31 | 22 8 | + 0·3 | 9 | 23 27 | +19·2 | 15 | 2 24 | − 1·6 |
| Feb. 1 | 21 56 | + 1·1 | 10 | 23 34 | +19·7 | 16 | 1 44 | − 2·3 |
| 3 | 0 35 | + 3·5 | 11 | 23 31 | +19·7 | 18 | 1 57 | − 3·9 |
| 4 | 21 36 | + 4·3 | 12 | 23 38 | +20·2 | 19 | 1 57 | − 4·8 |
| 5 | 21 39 | + 5·5 | 14 | 1 9 | +21·0 | 20 | 1 58 | − 5·7 |
| 7 | 21 46 | + 6·6 | 15 | 23 59 | +21·5 | 21 | 2 3 | − 7·1 |
| 8 | 21 55 | + 5·6 | 16 | 23 51 | +23·2 | 22 | 2 9 | − 8·6 |
| 9 | 22 10 | + 5·1 | 17 | 0 5 | +24·9 | 23 | 2 11 | −10·4 |
| 10 | 23 40 | + 4·7 | 18 | 0 10 | +26·4 | 25 | 2 20 | −14·1 |

(*a*) Clock not wound up.

| Date. | Time by Circle Clock. | Correction. | Date. | Time by Circle Clock. | Correction. | Date. | Time by Circle Clock. | Correction. |
|---|---|---|---|---|---|---|---|---|
| 1842. | h. m. | s. | 1842. | h. m. | s. | 1842. | h. m. | s. |
| Apr. 26 | 2 24 | −16·2 | July 21 | 8 12 | −47·8 | Oct. 4 | 12 50 | −35·2 |
| 27 | 2 27 | −17·7 | 22 | 8 19 | −50·3 | 5 | 12 54 | −40·3 |
| 28 | 2 34 | −19·8 | 23 | 8 21 | −52·7 | 6 | 12 59 | −44·4 |
| 29 | 2 35 | −22·1 | 25 | 8 28 | −58·7 | 7 | 12 59 | −48·9 |
| 30 | 2 40 | −24·0 | (*a*) 26 | 8 32 | −62·1 | 8 | 13 16 | −52·5 |
| May 2 | 2 48 | −29·6 | 27 | 8 34 | − 4·9 | (*a*) 10 | 13 13 | −60·3 |
| 3 | 2 52 | −31·8 | 29 | 8 45 | −11·4 | 11 | 13 15 | − 4·6 |
| 4 | 2 54 | −33·8 | 30 | 8 42 | −15·1 | 12 | 13 19 | − 7·7 |
| 5 | 2 56 | −36·4 | Aug. 1 | 9 12 | −26·9 | 13 | 13 25 | −11·8 |
| 6 | 3 3 | −38·7 | 2 | 8 58 | −32·1 | 14 | 13 25 | −16·6 |
| 7 | 3 5 | −40·9 | 3 | 9 18 | −38·0 | 15 | 13 27 | −20·3 |
| 9 | 3 27 | −46·2 | 4 | 9 3 | −44·4 | 17 | 13 41 | −27·2 |
| 12 | 3 24 | −55·5 | 5 | 10 40 | −51·8 | 18 | 13 39 | −30·7 |
| 13 | 3 31 | −59·0 | 6 | 9 20 | −57·5 | 19 | 13 45 | −36·4 |
| (*a*) 16 | 5 40 | −67·6 | 8 | 9 18 | −71·2 | 20 | 13 46 | −43·6 |
| 17 | 3 46 | − 9·0 | (*a*) 9 | 9 26 | −78·1 | 21 | 13 57 | −51·6 |
| 18 | 3 49 | −10·1 | 10 | 9 28 | −24·0 | 22 | 13 54 | −59·5 |
| 19 | 4 44 | −10·7 | 11 | 9 33 | −29·2 | (*a*) 24 | 14 3 | −73·3 |
| 20 | 3 57 | −11·3 | 12 | 10 17 | −34·2 | 25 | 15 23 | −21·4 |
| 21 | 4 0 | −11·3 | 13 | 9 36 | −38·6 | 26 | 15 2 | −29·1 |
| 23 | 4 6 | −12·6 | 15 | 10 19 | −45·0 | 27 | 14 55 | −36·3 |
| 24 | 4 10 | −13·6 | 16 | 9 49 | −47·6 | 28 | 14 17 | −42·5 |
| 25 | 4 13 | −14·0 | 17 | 9 55 | −51·3 | 29 | 16 3 | −49·3 |
| 26 | 4 23 | −14·3 | 18 | 9 59 | −53·5 | (*a*) 31 | 14 28 | −60·6 |
| 28 | 4 32 | −14·7 | 19 | 9 59 | −55·4 | Nov. 1 | 14 35 | − 4·3 |
| June 4 | 15 10 | −27·8 | 20 | 10 5 | −57·3 | 3 | 14 38 | − 9·4 |
| 6 | 5 8 | −30·1 | (*a*) 22 | 10 16 | −64·3 | 4 | 14 42 | −11·7 |
| 7 | 5 12 | −31·9 | 23 | 10 14 | − 7·6 | 5 | 14 52 | −14·6 |
| 8 | 5 14 | −33·5 | 24 | 10 20 | −11·7 | 7 | 14 56 | −20·7 |
| 9 | 5 52 | −34·6 | 25 | 10 33 | −16·7 | 8 | 15 5 | −24·4 |
| 10 | 5 23 | −35·7 | 26 | 10 30 | −21·6 | 9 | 15 6 | −27·2 |
| 11 | 5 27 | −36·5 | 27 | 10 38 | −25·8 | 10 | 15 8 | −30·4 |
| 13 | 5 58 | −37·4 | 29 | 10 46 | −32·8 | 11 | 15 15 | −34·2 |
| 14 | 5 53 | −38·0 | 30 | 10 41 | −35·2 | 12 | 15 22 | −37·7 |
| 15 | 5 56 | −39·4 | 31 | 10 45 | −38·7 | 14 | 15 28 | −42·8 |
| 16 | 5 47 | −41·5 | Sept. 1 | 11 25 | −42·7 | 15 | 15 25 | −45·9 |
| 17 | 5 53 | −45·1 | 2 | 10 54 | −44·9 | 16 | 15 37 | −49·6 |
| 18 | 5 56 | −48·6 | 5 | 11 4 | −49·4 | 17 | 15 37 | −54·0 |
| 20 | 6 17 | −59·0 | 6 | 11 11 | −50·5 | 18 | 15 47 | −58·8 |
| (*a*) 21 | 6 4 | −64·6 | 7 | 11 12 | −51·8 | (*a*) 19 | 15 48 | −63·6 |
| 22 | 6 11 | − 9·0 | 8 | 12 18 | −53·6 | 21 | 15 57 | −13·0 |
| 23 | 6 19 | −13·1 | 9 | 12 10 | −54·9 | 22 | 17 23 | −18·9 |
| 24 | 6 20 | −17·7 | 10 | 20 59 | −57·0 | 23 | 16 4 | −23·8 |
| 25 | 6 21 | −22·2 | 14 | 11 57 | −61·6 | 24 | 16 53 | −29·1 |
| 27 | 6 32 | −31·7 | (*a*) 15 | 11 44 | −62·1 | 25 | 16 20 | −33·6 |
| 28 | 6 35 | −36·2 | 16 | 11 44 | − 2·3 | 26 | 16 13 | −37·2 |
| 29 | 6 38 | −39·9 | 17 | 12 6 | − 3·2 | 28 | 16 38 | −42·4 |
| July 1 | 6 48 | −46·6 | 19 | 12 3 | − 5·9 | 29 | 16 30 | −44·8 |
| (*a*) 2 | 6 51 | −50·0 | 20 | 11 58 | − 7·6 | 30 | 16 44 | −46·7 |
| 9 | 16 8 | −13·4 | 21 | 12 5 | − 9·4 | Dec. 1 | 17 15 | −48·2 |
| 10 | 10 29 | −15·7 | 22 | 13 1 | −11·0 | 2 | 16 40 | −48·9 |
| 11 | 9 0 | −18·4 | 23 | 12 14 | −12·9 | 3 | 16 57 | −49·4 |
| 12 | 7 31 | −20·1 | 24 | 13 0 | −14·8 | 5 | 16 56 | −50·7 |
| 13 | 7 37 | −22·1 | 26 | 12 44 | −16·9 | 6 | 17 12 | −50·8 |
| 14 | 7 43 | −24·3 | 27 | 12 24 | −18·4 | 7 | 17 4 | −51·3 |
| 15 | 7 47 | −27·5 | 28 | 12 24 | −19·6 | 8 | 17 24 | −51·6 |
| 16 | 7 51 | −30·3 | 29 | 12 32 | −21·4 | 9 | 17 13 | −51·5 |
| 18 | 7 55 | −37·4 | 30 | 12 35 | −23·4 | 10 | 17 20 | −51·4 |
| 19 | 8 1 | −41·7 | Oct. 1 | 12 36 | −25·8 | 12 | 17 30 | −51·5 |
| 20 | 8 13 | −45·1 | 3 | 12 46 | −31·1 | (*b*) |  |  |

(*a*) Clock put back one minute. (*b*) Subsequently to this date the Transit Clock was employed.

Transits of stars over Wire III. were frequently observed for the purpose of ascertaining its deviation from the meridian, and it appeared, from stars taken promiscuously throughout the year, that Wire III. was about $1^{s}\cdot 7$ to the East of the meridian, chiefly owing to error of collimation. The deviation, being so small, has only been taken into account in the case of stars very near the Pole.

The reduction to the meridian for stars depending on the deviation of their parallels from a great circle is computed from the formula,

$$\frac{225''}{4} \sin. 1'' \sin. 2\,D \times t^2$$

D denoting the declination of the object, and $t$ its horary angle, expressed in seconds of time, and sin. 2 D being negative for objects south of the Equator, or below the Pole.

The reduction for the Sun, Moon, and Planets, has another term depending on the change of declination during the interval between the time of observation and the meridian transit; positive when the body is moving towards the North, and the time of observation is after the transit, or when the body is moving towards the South, and the time of observation is before the transit; being negative in other cases.

The refractions are computed by BESSEL's Tables. For convenience in practice, up to 78° of zenith distance, the Rev. R. SHEEPSHANKS' compendious form of BESSEL's refractions has been used; and so far the exterior thermometer only has been employed in the computation, being assumed to be (as it always very nearly is) equal to the interior one, whose factor is very small; but for zenith distances above 78°, the original tables in the *Tabulæ Regiomontanæ* have been referred to.

To the mean reading of the circle, the reduction to the meridian and the refraction are applied according to their signs, and the result is the reduced reading of the circle; or the reading for the meridian observations clear of the effect of refraction. The reduced readings are converted into declination by means of nightly determinations of the position of the Nadir point of the circle, with the collimating eye-piece, the latitude of the Observatory being assumed as in former years $= 55^{\circ}\ 57'\ 23''\cdot 2$.

The *apparent Declination observed*, given in the last column, is the difference between the reduced reading and the position of the Equatorial point adopted. In the case of the Sun, Moon, and Planets, the parallax in declination and the semi-diameter (when a limb has been observed) have still to be applied, in order to obtain the geocentric declination of the centre.

The apparent Declinations of the stars are converted into mean Declinations for the beginning of 1842, by applying the correction for precession, nutation, aberration, and proper motion, taken from the elements and subsidiary tables given in the Nautical Almanac, and the Astronomical Society's Catalogue. The individual results are given at pp. 204–224.

ROYAL OBSERVATORY, EDINBURGH.

# CATALOGUE

OF THE

# MEAN RIGHT ASCENSIONS AND DECLINATIONS OF THE STARS OBSERVED, FOR JANUARY 1, 1842,

AND

# REDUCED OBSERVATIONS OF THE SUN, MOON, AND PLANETS.

1842.

## CATALOGUE OF THE MEAN RIGHT ASCENSIONS AND DECLINATIONS OF THE STARS OBSERVED, REDUCED TO JANUARY 1, 1842.

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2881 | α Andromedæ | 0 0 13·93 | +28 13 5·4 | 35 | 5 |
| 13 | γ Pegasi | 0 5 6·35 | ……………… | 25 | … |
| …… | Groombridge 29 | 0 7 18·55 | +76 4 20·3 | 5 | 3 |
| …… | ……………… S.P. | …………… | +76 4 18·5 | … | 3 |
| …… | σ Andromedæ | 0 10 5·23 | +35 54 32·8 | 3 | 3 |
| 20 | ι Ceti | 0 11 22·61 | ……………… | 3 | … |
| 23 | 41 Piscium | 0 12 28·36 | + 7 18 45·5 | 4 | 3 |
| …… | ϱ Andromedæ | 0 12 48·81 | +37 5 36·0 | 3 | 3 |
| …… | 12 Cassiopeæ | 0 16 7·25 | +60 7 17·5 | 5 | 3 |
| …… | Piazzi O. 74 | 0 19 45·62 | +43 31 12·6 | 3 | 3 |
| …… | Piazzi O. 118 | 0 27 22·64 | +53 17 50·6 | 3 | 3 |
| …… | Piazzi O. 124 | 0 28 12·56 | +43 36 58·4 | 3 | 3 |
| …… | Piazzi O. 128 | 0 28 54·49 | +34 31 45·1 | 3 | 3 |
| 60 | α Cassiopeæ | …………… | +55 40 11·8 | … | 5 |
| …… | 32 Andromedæ | 0 32 34·44 | +38 35 25·9 | 3 | 3 |
| …… | ξ Cassiopeæ | 0 33 16·71 | +49 38 41·8 | 3 | 3 |
| 64 | ……………………………… | …………… | −12 40 16·4 | … | 2 |
| 65 | π Cassiopeæ | …………… | +46 9 34·4 | … | 3 |
| …… | 21 Cassiopeæ | 0 35 19·88 | +74 7 23·1 | 5 | 3 |
| 67 | β Ceti | 0 35 39·33 | ……………… | 3 | … |
| …… | ο Cassiopeæ | 0 35 56·68 | +47 25 7·6 | 3 | 3 |
| 68 | $\varphi^1$ Ceti | …………… | −11 28 14·2 | … | 3 |
| …… | 23 Cassiopeæ | 0 37 20·15 | +73 58 59·8 | 5 | 3 |
| 75 | 59 Piscium | …………… | +18 42 52·4 | … | 1 |
| 76 | ζ Andromedæ | …………… | +23 24 24·7 | … | 3 |
| 78 | η Cassiopeæ | …………… | +56 58 32·5 | … | 3 |
| …… | ν Cassiopeæ | 0 39 54·51 | +50 6 20·0 | 3 | 3 |
| 81 | δ Piscium | 0 40 29·26 | + 6 43 27·6 | 1 | 1 |
| 85 | $\varphi^2$ Ceti | …………… | −11 29 43·6 | … | 2 |
| …… | Piazzi O. 209 | 0 43 41·28 | +60 15 23·0 | 5 | 3 |
| …… | $\upsilon^1$ Cassiopeæ | 0 45 39·92 | +58 6 57·5 | 3 | 4 |
| 87 | 66 Piscium | …………… | +18 19 49·5 | … | 3 |
| 89 | γ Cassiopeæ | …………… | +59 51 35·5 | … | 3 |
| …… | $\upsilon^2$ Cassiopeæ | 0 47 18·10 | +58 19 32·9 | 3 | 3 |
| 90 | 67 Piscium | …………… | +26 21 6·3 | … | 3 |
| 92 | ……………………………… | …………… | − 8 12 10·0 | … | 3 |
| 94 | μ Andromedæ | …………… | +37 38 27·7 | … | 1 |
| 95 | $\varphi^3$ Ceti | …………… | −12 7 22·4 | … | 3 |
| …… | 39 Andromedæ | 0 54 2·79 | +40 29 40·1 | 3 | 3 |
| …… | $\sigma^1$ Piscium | 0 54 10·88 | +30 57 16·5 | 3 | 3 |
| 103 | ε Piscium | 0 54 44·86 | + 7 2 18·1 | 2 | 1 |
| 109 | 27 Ceti | …………… | −10 49 30·9 | … | 2 |
| …… | μ Cassiopeæ | 0 57 48·50 | +54 8 33·6 | 3 | 3 |
| 110 | 28 Ceti | …………… | −10 41 12·3 | … | 3 |
| …… | 41 Andromedæ | 0 58 58·06 | +43 5 54·4 | 3 | 3 |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declina-tion. |
| | | h. m. s. | ° ′ ″ | | |
| ...... | 78 Piscium | 0 59 17·78 | +31 10 4·2 | 3 | 1 |
| 113 | $\psi^2$ Piscium | ............... | +19 53 51·3 | ... | 3 |
| 114 | 30 Ceti | ............... | −10 37 54·4 | ... | 3 |
| ...... | 31 Cassiopeæ | 1 0 3·11 | +67 56 8·1 | 5 | 3 |
| 119 | β Andromedæ | ............... | +34 46 53·1 | ... | 3 |
| ...... | 32 Cassiopeæ | 1 1 27·89 | +64 10 36·7 | 5 | 3 |
| 121 | θ Cassiopeæ | ............... | +54 18 28·1 | ... | 3 |
| 124 | 32 Ceti | ............... | − 9 44 51·9 | ... | 1 |
| ...... | 45 Andromedæ | 1 2 18·89 | +36 52 54·3 | 3 | 3 |
| ...... | 82 Piscium | ............... | +30 34 58·7 | ... | 3 |
| 115 | α Ursæ Minoris | 1 2 43·99 | +88 28 2·4 | 84 | 76 |
| ...... | .................... S.P. | 13 2 44·07 | +88 27 59·9 | 82 | 64 |
| 127 | χ Piscium | ............... | +20 11 35·3 | ... | 3 |
| ...... | Piazzi I. 9 | 1 3 26·61 | +44 29 43·1 | 3 | 3 |
| ...... | φ Cassiopeæ | 1 10 11·48 | +57 23 55·7 | 3 | 3 |
| ...... | 47 Andromedæ | 1 14 39·53 | +36 53 17·2 | 3 | 3 |
| 149 | $\theta^1$ Ceti | 1 16 7·65 | − 9 0 0·2 | 11 | 5 |
| ...... | ω Andromedæ | 1 18 13·84 | +44 35 19·6 | 3 | 3 |
| ...... | 38 Cassiopeæ | 1 19 34·43 | +69 26 54·8 | 5 | 3 |
| ...... | 49 Andromedæ | 1 20 39·34 | +46 11 23·8 | 3 | 3 |
| 166 | η Piscium | 1 23 2·16 | +14 31 47·6 | 5 | 2 |
| ...... | χ Cassiopeæ | 1 23 39·36 | +58 25 6·2 | 3 | 3 |
| ...... | 40 Cassiopeæ | 1 26 1·15 | +72 13 52·6 | 5 | 3 |
| ...... | Piazzi I. 113 | 1 26 49·64 | +47 54 47·8 | 3 | 3 |
| 178 | π Piscium | 1 28 43·97 | ................. | 1 | ... |
| ...... | χ Andromedæ | 1 29 53·99 | +43 34 47·0 | 3 | 3 |
| ...... | ω Cassiopeæ | 1 30 43·99 | ................. | 1 | ... |
| ...... | 42 Cassiopeæ | 1 30 47·12 | +69 49 15·4 | 5 | 3 |
| 174 | υ Andromedæ | 1 32 11·65 | +41 49 5·6 | 3 | 2 |
| ...... | 44 Cassiopeæ | ............... | +59 45 5·0 | ... | 3 |
| ...... | Piazzi I. 170 | 1 39 20·69 | +37 9 48·8 | 3 | 3 |
| ...... | 1 Persei | 1 41 39·17 | +54 21 43·1 | 3 | 3 |
| ...... | 2 Persei | 1 42 8·52 | +50 0 32·0 | 3 | 3 |
| ...... | 46 Cassiopeæ | 1 43 49·37 | ................. | 1 | ... |
| ...... | 55 Andromedæ | 1 43 50·04 | +39 56 50·4 | 3 | 2 |
| ...... | Piazzi I. 200 | 1 45 38·76 | +36 20 57·0 | 3 | 3 |
| 201 | β Arietis | 1 45 55·42 | +20 1 59·4 | 4 | 3 |
| ...... | Piazzi I. 203 | 1 46 34·85 | +36 30 0·0 | 3 | 3 |
| ...... | 56 Andromedæ | 1 46 47·39 | ................. | 2 | ... |
| ...... | Groombridge 404 | 1 47 11·92 | +77 8 43·5 | 5 | 3 |
| ...... | ................. S.P. | ............... | +77 8 41·3 | ... | 3 |
| 209 | 50 Cassiopeæ | 1 50 4·55 | ................. | 3 | ... |
| ...... | 49 Cassiopeæ | 1 50 37·21 | +75 21 2·6 | 5 | 3 |
| ...... | 52 Cassiopeæ | 1 51 10·82 | +64 8 3·7 | 4 | 3 |
| ...... | 53 Cassiopeæ | ............... | +63 37 23·8 | ... | 1 |
| ...... | ε Trianguli | 1 53 45·31 | +32 31 10·2 | 2 | 3 |
| 227 | α Arietis | 1 58 16·78 | ................. | 22 | ... |
| ...... | 58 Andromedæ | 1 58 58·62 | +37 6 22·6 | 3 | 3 |
| ...... | 5 Persei | 2 0 32·12 | +56 53 43·0 | 3 | 3 |
| ...... | 59 Andromedæ | 2 1 19·20 | +38 17 25·8 | 3 | 2 |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| ...... | 55 Cassiopeæ | ............... | +65 46 45·0 | ... | 1 |
| ...... | 6 Persei | 2 3 8·11 | +50 19 41·0 | 3 | 1 |
| ...... | 60 Andromedæ | 2 3 20·42 | +43 29 12·3 | 3 | 3 |
| ...... | 7 Trianguli | 2 6 36·68 | +32 37 16·6 | 3 | 3 |
| ...... | δ Trianguli | 2 7 25·94 | +33 29 51·8 | 3 | 3 |
| ...... | γ Trianguli | 2 7 56·55 | +33 6 47·6 | 2 | 2 |
| ...... | Piazzi II. 41 | 2 9 6·40 | +48 13 9·9 | 3 | 3 |
| ...... | 62 Andromedæ | 2 9 6·78 | ................. | 1 | ... |
| 239 | $\theta^{1}$ Arietis | 2 9 20·91 | +19 10 3·3 | 4 | 1 |
| ...... | 63 Andromedæ | 2 10 32·74 | +49 25 22·5 | 2 | 3 |
| ...... | 64 Andromedæ | 2 13 57·22 | +49 17 8·6 | 3 | 3 |
| 245 | 70 Ceti | 2 14 9·72 | ................. | 2 | ... |
| ...... | 65 Andromedæ | 2 15 7·26 | +49 33 34·4 | 3 | 2 |
| ...... | Groombridge 506 | 2 15 21·84 | +80 56 12·4 | 5 | 3 |
| ...... | ................ S.P. | ............... | +80 56 10·0 | ... | 3 |
| 250 | 71 Ceti | ............... | − 3 29 52·3 | ... | 1 |
| 252 | ϱ Ceti | ............... | −13 0 19·8 | ... | 3 |
| 253 | 12 Trianguli | 2 18 55·22 | ................. | 1 | ... |
| 259 | ψ Arietis | 2 22 9·30 | +17 0 8·2 | 1 | 1 |
| ...... | 14 Trianguli | 2 22 28·85 | +35 26 32·9 | 3 | 3 |
| ...... | Piazzi II. 97 | 2 23 9·35 | +72 7 16·4 | 5 | 2 |
| 262 | ω Arietis | 2 24 15·51 | ................. | 1 | ... |
| 274 | 80 Ceti | ............... | − 8 31 18·6 | ... | 2 |
| 275 | 81 Ceti | ............... | − 4 4 59·5 | ... | 3 |
| 276 | ι Arietis | 2 29 51·44 | +21 16 27·9 | 3 | 1 |
| ...... | 12 Persei | 2 32 17·90 | +39 31 16·8 | 3 | 2 |
| 281 | 84 Ceti | ............... | − 1 22 14·0 | ... | 2 |
| 282 | θ Persei | 2 33 26·34 | +48 33 20·6 | 2 | 3 |
| ...... | 14 Persei | 2 33 49·46 | +43 37 15·2 | 2 | 2 |
| 287 | 35 Arietis | ............... | +27 1 52·9 | ... | 3 |
| 289 | γ Ceti | 2 35 7·22 | + 2 34 0·0 | 4 | 5 |
| 298 | 39 Arietis | ............... | +28 35 12·8 | ... | 2 |
| 302 | ϖ Arietis | 2 40 29·31 | +16 48 14·1 | 1 | 1 |
| ...... | 17 Persei | 2 41 47·99 | +34 24 19·9 | 3 | 3 |
| ...... | Piazzi II. 191 | 2 45 23·44 | +78 47 4·1 | 5 | 3 |
| ...... | 21 Persei | 2 47 43·07 | +31 17 37·7 | 2 | 3 |
| ...... | ϖ Persei | ............... | +39 1 32·8 | ... | 3 |
| ...... | Piazzi II. 221 | ............... | +34 32 42·8 | ... | 1 |
| ...... | Piazzi II. 220 | 2 49 38·94 | ................. | 3 | ... |
| 319 | ε Arietis | 2 50 11·30 | ................. | 3 | ... |
| 330 | $\varrho^{1}$ Eridani | ............... | − 8 17 21·3 | ... | 1 |
| 331 | ................................ | 2 53 43·03 | +56 4 47·0 | 2 | 3 |
| 332 | α Ceti | 2 54 1·56 | ................. | 8 | ... |
| 334 | ϱ Persei | ............... | +38 13 23·6 | ... | 2 |
| 335 | $\varrho^{2}$ Eridani | ............... | − 8 18 37·0 | ... | 3 |
| ...... | Piazzi II. 237 | 2 54 58·64 | +73 47 5·0 | 5 | 1 |
| 339 | $\varrho^{3}$ Eridani | ............... | − 8 13 21·0 | ... | 3 |
| 341 | β Persei | ............... | +40 20 31·8 | ... | 6 |
| ...... | Piazzi II. 255 | 3 0 30·92 | +77 8 38·6 | 5 | 3 |
| ...... | ...... ...... S.P. | ............... | +77 8 37·2 | ... | 3 |

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| | | | | Right Ascension. | Declina-tion. |
| | | h. m. s. | ° ′ ″ | | |
| 346 | …… | 3 1 4·90 | …… | 1 | ... |
| …… | ω Persei | 3 1 6·77 | +39 0 22·8 | 3 | 3 |
| 348 | δ Arietis | 3 2 36·35 | …… | 1 | ... |
| …… | Piazzi III. 7 | 3 6 10·08 | +65 4 2·1 | 5 | 3 |
| …… | 31 Persei | …… | +49 30 40·8 | ... | 3 |
| …… | Piazzi III. 23 | 3 8 51·95 | +33 38 24·5 | 3 | 3 |
| 359 | …… | …… | +28 28 15·8 | ... | 1 |
| …… | Piazzi III. 28 | 3 10 42·10 | +48 29 50·7 | 2 | 3 |
| …… | 32 Persei | …… | +42 45 11·9 | ... | 2 |
| 360 | $\kappa^1$ Ceti | …… | + 2 47 12·3 | ... | 3 |
| …… | Piazzi III. 27 | 3 11 1·59 | +64 0 52·1 | 5 | 1 |
| 366 | $\kappa^2$ Ceti | …… | + 3 6 9·8 | ... | 3 |
| 365 | α Persei | …… | +49 17 34·7 | ... | 5 |
| 369 | 64 Arietis | 3 14 59·37 | …… | 1 | ... |
| 371 | …… | …… | +59 22 59·0 | ... | 3 |
| 373 | …… | …… | +58 19 26·6 | ... | 3 |
| …… | Piazzi III. 57 | 3 17 59·68 | +54 53 55·8 | 3 | 3 |
| …… | 34 Persei | 3 18 6·05 | +48 57 21·3 | 3 | 3 |
| 377 | σ Persei | …… | +47 26 37·9 | ... | 2 |
| …… | 36 Persei | 3 21 31·05 | +45 30 56·8 | 3 | 3 |
| …… | Piazzi III. 94 | 3 28 30·26 | +62 41 49·5 | 5 | 3 |
| …… | Piazzi III. 104 | 3 30 51·90 | +37 3 51·8 | 3 | 2 |
| 395 | 12 Tauri | …… | + 2 32 20·1 | ... | 3 |
| …… | δ Persei | …… | +47 16 35·2 | ... | 1 |
| …… | Piazzi III. 105 | 3 32 17·11 | +62 50 18·6 | 3 | 3 |
| 397 | 22 Eridani | …… | − 5 43 29·7 | ... | 3 |
| …… | Piazzi III. 111 | 3 33 47·65 | +70 50 9·2 | 1 | 2 |
| 400 | …… | …… | +31 46 56·4 | ... | 3 |
| …… | Piazzi III. 121 | 3 35 7·58 | …… | 5 | ... |
| 406 | δ Eridani | …… | −10 18 7·6 | ... | 3 |
| 407 | …… | …… | −10 59 23·2 | ... | 3 |
| …… | Piazzi III. 137 | …… | +24 3 21·1 | ... | 1 |
| …… | 22 Tauri | …… | +24 1 47·4 | ... | 2 |
| 412 | 29 Tauri | …… | + 5 33 4·0 | ... | 1 |
| 413 | …… | 3 38 5·97 | …… | 1 | ... |
| 414 | η Tauri | 3 38 6·24 | …… | 9 | ... |
| 415 | π Eridani | …… | −12 36 4·4 | ... | 3 |
| 416 | …… | …… | +22 55 52·0 | ... | 2 |
| …… | 42 Persei | 3 39 34·38 | +32 36 6·1 | 3 | 2 |
| …… | Piazzi III. 177 | 3 43 32·39 | +62 36 3·3 | 4 | 3 |
| …… | Piazzi III. 160 | 3 43 56·07 | +80 14 54·6 | 1 | 2 |
| 431 | 30 Eridani | …… | − 5 50 13·4 | ... | 2 |
| 432 | 32 Eridani | …… | − 3 25 34·0 | ... | 3 |
| 433 | ε Persei | …… | +39 32 49·0 | ... | 3 |
| 438 | ξ Persei | …… | +35 19 51·2 | ... | 3 |
| 440 | $\gamma^1$ Eridani | 3 50 39·60 | −13 57 42·7 | 5 | 5 |
| …… | Piazzi III. 208 | 3 51 19·83 | +58 42 31·7 | 3 | 3 |
| 446 | ν Tauri | …… | + 5 32 46·7 | ... | 1 |
| …… | λ Persei | 3 54 50·49 | +49 54 56·4 | 3 | 3 |
| 449 | 39 Tauri | 3 55 59·57 | …… | 1 | ... |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| ...... | 50 Persei | 3 58 6·12 | +37 37 12·5 | 3 | 3 |
| ...... | Groombridge 784 | 4 0 45·88 | +75 42 15·8 | 5 | 2 |
| ...... | ................ S.P. | ............... | +75 42 13·2 | ... | 3 |
| ...... | 52 Persei | 4 4 9·07 | ...... ........... | 1 | ... |
| 464 | ο Eridani | ............... | − 7 15 13·7 | ... | 1 |
| ...... | Piazzi IV. 7 | 4 4 25·31 | +53 12 29·3 | 3 | 1 |
| 465 | 46 Tauri | ............... | + 7 18 25·7 | ... | 3 |
| 466 | 47 Tauri | ............... | + 8 51 29·1 | ... | 3 |
| 467 | ............................... | ............... | +49 53 59·8 | ... | 2 |
| 469 | μ Tauri | ............... | + 8 29 30·1 | ... | 3 |
| 470 | 39 Eridani | ............... | −10 39 10·5 | ... | 3 |
| ...... | Piazzi IV. 22 | 4 8 5·73 | +60 21 4·9 | 3 | 1 |
| ...... | 53 Persei | 4 10 8·67 | +46 6 52·4 | 1 | 3 |
| ...... | 54 Persei | ............... | +34 10 45·0 | ... | 3 |
| ...... | 55 Persei | 4 14 14·86 | +33 45 31·4 | 3 | 3 |
| 502 | υ¹ Tauri | 4 16 51·67 | +22 26 58·3 | 2 | 1 |
| 523 | ϱ Tauri | 4 24 53·28 | ................. | 2 | ... |
| ...... | 58 Persei | 4 25 45·63 | +40 56 0·1 | 1 | 3 |
| 528 | α Tauri | 4 26 51·68 | ................. | 26 | ... |
| 529 | 88 Tauri | ............... | + 9 49 51·9 | ... | 3 |
| ...... | 2 Camelopardi | 4 27 28·81 | +53 9 14·0 | 2 | 3 |
| ...... | 3 Camelopardi | ............... | +52 45 25·0 | ... | 1 |
| ...... | Piazzi IV. 112 | 4 27 41·74 | ................. | 1 | ... |
| 530 | ν² Eridani | ............... | − 3 40 48·6 | ... | 3 |
| 532 | 49 Eridani | ............... | + 0 40 24·0 | ... | 2 |
| 535 | 51 Eridani | ............... | − 2 47 40·7 | ... | 3 |
| ...... | 59 Persei | 4 31 42·83 | +43 3 24·9 | 3 | 3 |
| 542 | ............................... | ............... | −14 40 10·4 | ... | 2 |
| 543 | τ Tauri | ............... | +22 38 52·3 | ... | 1 |
| ...... | 4 Camelopardi | 4 34 52·18 | +56 28 4·4 | 3 | 3 |
| 547 | ............................... | ............... | +10 50 47·3 | ... | 3 |
| ...... | Piazzi IV. 170 | 4 37 20·32 | +63 13 32·6 | 4 | 3 |
| ...... | 1 Aurigæ | 4 39 17·18 | +37 12 8·9 | 2 | 3 |
| 556 | 1 Orionis | ............... | + 6 40 47·6 | ... | 2 |
| 557 | 59 Eridani | ............... | −16 36 48·4 | ... | 3 |
| 558 | π¹ Orionis | ............... | + 8 37 25·6 | ... | 3 |
| ...... | 2 Aurigæ | 4 42 4·00 | ................. | 3 | ... |
| 560 | 3 Orionis | ............... | + 5 19 47·9 | ... | 3 |
| 562 | 60 Eridani | ............... | −16 29 43·5 | ... | 1 |
| 564 | 7 Camelopardi | 4 44 38·46 | +53 29 26·9 | 2 | 2 |
| 565 | 5 Orionis | ............... | + 2 14 32·4 | ... | 3 |
| 566 | ω Eridani | ............... | − 5 43 17·6 | ... | 2 |
| 568 | 8 Orionis | ............... | + 2 10 37·6 | ... | 3 |
| 569 | 7 Orionis | ............... | + 9 53 39·4 | ... | 3 |
| 574 | ω Aurigæ | ............... | +37 38 39·2 | ... | 3 |
| 576 | 62 Eridani | ............... | − 5 25 34·7 | ... | 3 |
| 577 | 10 Camelopardi | 4 49 23·62 | ................. | 3 | ... |
| ...... | 5 Aurigæ | 4 49 27·37 | +39 8 54·1 | 3 | 3 |
| 579 | 10 Orionis | ............... | + 1 27 59·4 | ... | 1 |
| 580 | ε Aurigæ | ............... | +43 34 55·4 | ... | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 582 | ζ Aurigæ | ...... | +40 50 16·8 | ... | 3 |
| 583 | 63 Eridani | ...... | −10 29 57·1 | ... | 3 |
| 584 | 64 Eridani | ...... | −12 46 28·7 | ... | 3 |
| ...... | Piazzi IV. 254 | 4 52 31·04 | +73 43 46·4 | 2 | 2 |
| 585 | ι Tauri | 4 53 39·50 | +21 21 29·7 | 1 | 1 |
| ...... | 9 Aurigæ | 4 54 19·21 | +51 22 46·5 | 3 | 3 |
| 588 | η Aurigæ | ...... | +41 0 47·8 | ... | 3 |
| ...... | Piazzi IV. 269 | ...... | +79 1 56·3 | ... | 3 |
| 596 | ...... | 4 58 40·29 | ...... | 4 | ... |
| ...... | 14 Camelopardi | 4 58 50·76 | ...... | 4 | ... |
| 599 | 66 Eridani | ...... | − 4 52 18·4 | ... | 3 |
| ...... | Piazzi IV. 294 | ...... | +46 45 33·2 | ... | 1 |
| 601 | 14 Orionis | ...... | + 8 17 14·3 | ... | 3 |
| 603 | β Eridani | ...... | − 5 17 43·1 | ... | 3 |
| 605 | 16 Orionis | 5 0 38·40 | ...... | 2 | ... |
| 606 | 68 Eridani | 5 0 53·98 | − 4 39 59·1 | 1 | 1 |
| ...... | Groombridge 931 | 5 1 22·75 | +78 14 16·7 | 5 | 3 |
| ...... | S.P. | ...... | +78 14 15·8 | ... | 3 |
| 607 | λ Eridani | 5 1 35·25 | − 8 57 40·9 | 3 | 3 |
| 608 | μ Aurigæ | 5 2 37·84 | +38 17 25·2 | 1 | 3 |
| ...... | Piazzi IV. 311 | 5 4 7·11 | +78 8 16·9 | 3 | 1 |
| 611 | α Aurigæ | 5 5 1·59 | +45 49 46·5 | 28 | 5 |
| 614 | ρ¹ Orionis | 5 5 2·06 | + 2 40 5·8 | 3 | 3 |
| 616 | μ Leporis | ...... | −16 23 47·8 | ... | 3 |
| 618 | κ Leporis | 5 5 56·24 | −13 7 56·2 | 3 | 2 |
| 617 | ...... | 5 5 57·69 | ...... | 3 | ... |
| 619 | β Orionis | 5 6 56·84 | ...... | 22 | ... |
| 620 | 18 Orionis | 5 7 17·71 | +11 9 28·9 | 2 | 3 |
| 621 | λ Aurigæ | 5 8 2·06 | +39 57 4·5 | 3 | 3 |
| ...... | 19 Aurigæ | ...... | +33 47 10·7 | ... | 2 |
| ...... | 16 Camelopardi | 5 9 57·01 | +57 22 55·7 | 1 | 1 |
| 626 | ...... | 5 10 24·93 | −13 41 31·9 | 2 | 3 |
| 628 | 21 Orionis | 5 10 56·88 | + 2 25 36·3 | 3 | 3 |
| 631 | λ Leporis | ...... | −13 20 37·9 | ... | 1 |
| 632 | ν Leporis | 5 12 39·28 | −12 28 55·4 | 2 | 3 |
| 635 | 22 Orionis | ...... | − 0 32 36·0 | ... | 2 |
| ...... | σ Aurigæ | 5 13 55·29 | +37 13 50·2 | 2 | 3 |
| 639 | 23 Orionis | ...... | + 3 23 14·1 | ... | 3 |
| 640 | 111 Tauri | 5 15 12·43 | ...... | 3 | ... |
| 643 | ξ Leporis | 5 16 16·52 | −14 4 48·0 | 2 | 3 |
| 642 | β Tauri | 5 16 18·49 | +28 28 3·2 | 15 | 6 |
| 644 | 29 Orionis | 5 16 20·30 | − 7 57 28·1 | 3 | 1 |
| ...... | Piazzi V. 71 | 5 16 21·14 | ...... | 2 | ... |
| 645 | 27 Orionis | 5 16 27·09 | ...... | 1 | ... |
| 647 | η Orionis | 5 16 32·20 | − 2 32 51·9 | 3 | 1 |
| 646 | ψ¹ Orionis | 5 16 32·91 | ...... | 3 | ... |
| 648 | γ Orionis | 5 16 39·58 | ...... | 3 | ... |
| 649 | 113 Tauri | 5 16 58·18 | ...... | 3 | ... |
| 650 | φ Aurigæ | 5 17 10·88 | +34 20 2·7 | 3 | 3 |
| 653 | ψ² Orionis | ...... | + 2 57 13·1 | ... | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| ...... | 18 Camelopardi ............ | 5 19 2·51 | +57 6 0·4 | 2 | 1 |
| 656 | ................................ | 5 19 2·98 | ................. | 3 | ... |
| 658 | ................................ | 5 19 43·32 | −12 2 16·7 | 2 | 3 |
| 660 | 31 Orionis .................. | 5 21 42·72 | − 1 13 18·9 | 1 | 3 |
| 662 | 32 Orionis .................. | 5 22 19·94 | + 5 49 19·4 | 3 | 3 |
| 664 | 33 Orionis .................. | 5 22 57·25 | + 3 10 0·7 | 3 | 3 |
| 665 | δ Orionis .................... | 5 23 56·23 | − 0 25 17·0 | 17 | 5 |
| 668 | υ Orionis .................... | 5 24 17·42 | − 7 25 22·1 | 1 | 2 |
| ...... | 22 Camelopardi ............ | 5 25 45·26 | ................. | 2 | ... |
| 675 | 38 Orionis .................. | 5 25 58·02 | + 3 39 13·1 | 3 | 3 |
| 674 | ................................ | 5 26 0·76 | ................. | 3 | ... |
| 676 | φ¹ Orionis.................... | ............... | + 9 22 37·5 | ... | 1 |
| 677 | λ Orionis..................... | 5 26 26·30 | + 9 49 22·8 | 3 | 2 |
| 680 | 42 Orionis .................. | 5 27 35·58 | − 4 56 48·6 | 3 | 2 |
| 681 | θ² Orionis.................... | 5 27 37·46 | ................. | 3 | ... |
| 682 | ι Orionis..................... | 5 27 42·29 | − 6 1 6·0 | 3 | 3 |
| 686 | ε Orionis .................... | 5 28 11·94 | − 1 18 28·8 | 10 | 5 |
| 684 | ζ Tauri........................ | 5 28 12·38 | +21 2 22·1 | 2 | 1 |
| 685 | φ² Orionis.................... | 5 28 13·68 | + 9 11 57·5 | 2 | 1 |
| 690 | σ Orionis .................... | ............... | − 2 41 47·4 | ... | 3 |
| 691 | ω Orionis..................... | 5 30 50·73 | + 4 1 34·3 | 3 | 3 |
| 693 | 49 Orionis .................. | 5 31 14·44 | ................. | 2 | ... |
| 694 | ................................ | 5 31 39·05 | − 3 39 28·7 | 3 | 3 |
| ...... | 26 Camelopardi ............ | 5 33 11·71 | +56 2 28·2 | 1 | 1 |
| 700 | 51 Orionis .................. | 5 34 18·50 | + 1 23 34·5 | 3 | 3 |
| ...... | 29 Camelopardi............ | 5 37 5·79 | +56 51 26·3 | 1 | 1 |
| 710 | 52 Orionis .................. | 5 39 31·01 | + 6 23 35·1 | 3 | 1 |
| 711 | ζ Leporis..................... | ............... | −14 53 5·5 | ... | 3 |
| 713 | κ Orionis..................... | 5 40 15·82 | − 9 43 50·5 | 3 | 3 |
| ...... | υ Aurigæ...................... | 5 40 16·00 | ................. | 1 | ... |
| 714 | ν Aurigæ...................... | 5 40 32·42 | +39 5 40·8 | 2 | 3 |
| 716 | 134 Tauri .................... | 5 40 40·50 | +12 35 43·5 | 3 | 3 |
| 715 | 31 Camelopardi............ | 5 40 48·86 | +59 50 33·2 | 3 | 1 |
| 718 | ξ Aurigæ...................... | 5 41 36·60 | +55 39 40·4 | 3 | 3 |
| 722 | 136 Tauri .................... | 5 43 24·04 | ................. | 2 | ... |
| 725 | 55 Orionis .................. | ............... | − 7 33 54·1 | ... | 3 |
| 726 | 56 Orionis ... ............. | 5 44 14·29 | + 1 48 40·6 | 3 | 3 |
| 734 | α Orionis..................... | 5 46 37·19 | + 7 22 18·2 | 26 | 5 |
| 733 | δ Aurigæ...................... | ............... | +54 15 49·0 | ... | 3 |
| 736 | π Aurigæ ..................... | 5 48 12·57 | +45 54 53·0 | 3 | 3 |
| 739 | η Leporis..................... | 5 49 12·60 | ................. | 3 | ... |
| 740 | 59 Orionis .................. | 5 50 12·16 | + 1 48 57·8 | 3 | 3 |
| 742 | 60 Orionis .............. .... | 5 50 42·25 | + 0 31 59·3 | 3 | 3 |
| 744 | 2 Monocerotis.............. | ............... | − 9 34 23·2 | ... | 3 |
| 747 | μ Orionis..................... | ............... | + 9 38 30·4 | ... | 3 |
| 751 | 3 Monocerotis.............. | 5 54 24·52 | −10 36 15·6 | 3 | 2 |
| 749 | 1 Geminorum............... | 5 54 31·00 | +23 15 57·0 | 1 | 1 |
| 752 | 66 Orionis .................. | 5 56 37·51 | + 4 9 44·5 | 1 | 3 |
| 756 | ϱ Leporis..................... | 5 57 56·22 | −16 28 41·2 | 3 | 3 |
| 758 | θ Leporis......... .......... | 5 59 0·35 | −14 55 31·8 | 3 | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 763 | τ Leporis | 6 0 49·43 | −19 9 4·4 | 2 | 2 |
| 765 | 4 Monocerotis | 6 1 1·35 | −11 7 37·5 | 3 | 3 |
| 761 | …… | 6 1 25·46 | …… | 5 | … |
| 764 | 40 Camelopardi | 6 1 28·85 | +60 1 59·7 | 5 | 3 |
| 770 | 1 Lyncis | 6 3 20·45 | +61 33 22·6 | 3 | 3 |
| 775 | η Geminorum | 6 5 20·45 | …… | 1 | … |
| 776 | 2 Lyncis | …… | +59 3 30·7 | … | 3 |
| 780 | 73 Orionis | 6 6 52·50 | +12 35 42·1 | 3 | 3 |
| 781 | 5 Monocerotis | 6 7 8·86 | − 6 13 53·1 | 2 | 1 |
| 783 | 74 Orionis | 6 7 34·35 | +12 18 37·0 | 3 | 2 |
| 785 | 75 Orionis | …… | + 9 59 40·0 | … | 3 |
| 788 | 7 Monocerotis | …… | − 7 45 40·2 | … | 3 |
| 789 | 46 Aurigæ | 6 12 43·34 | …… | 3 | … |
| 790 | μ Geminorum | 6 13 24·06 | +22 35 18·1 | 19 | 8 |
| 793 | …… | 6 14 59·00 | + 3 50 19·6 | 1 | 3 |
| 794 | 8 Monocerotis | 6 15 23·77 | + 4 40 3·8 | 3 | 3 |
| 797 | β Canis Majoris | 6 15 44·59 | …… | 3 | … |
| …… | Groombridge 1151 | 6 15 52·42 | +78 6 15·4 | 5 | 3 |
| …… | …… S.P. | …… | +78 6 13·3 | … | 3 |
| 802 | 77 Orionis | 6 19 6·92 | + 0 23 20·4 | 1 | 3 |
| 803 | 78 Orionis | 6 19 10·95 | − 0 11 10·2 | 3 | 3 |
| 806 | 10 Monocerotis | 6 20 9·45 | − 4 40 9·9 | 3 | 3 |
| 812 | 12 Monocerotis | 6 23 56·14 | + 4 57 51·0 | 2 | 3 |
| 813 | 13 Monocerotis | 6 24 21·65 | …… | 3 | … |
| …… | 51 (Hev.) Cephei | 6 24 26·54 | +87 15 41·4 | 5 | 5 |
| …… | …… S.P. | …… | +87 15 40·0 | … | 5 |
| 816 | …… | 6 24 58·40 | …… | 3 | … |
| 819 | 14 Monocerotis | …… | + 7 41 22·6 | … | 3 |
| 823 | $\nu^2$ Canis Majoris | 6 29 47·61 | −19 7 30·9 | 2 | 3 |
| 824 | $\nu^3$ Canis Majoris | 6 30 56·54 | −18 6 17·0 | 3 | 3 |
| 826 | 55 Aurigæ | 6 31 34·60 | +44 40 6·8 | 3 | 3 |
| 827 | 15 Monocerotis | 6 32 16·52 | +10 2 10·7 | 3 | 1 |
| 831 | ε Geminorum | 6 34 12·55 | +25 16 52·4 | 4 | 3 |
| 830 | 42 Camelopardi | 6 34 26·70 | +67 44 5·6 | 4 | 3 |
| 835 | 43 Camelopardi | 6 36 37·72 | +69 3 37·5 | 4 | 2 |
| 834 | …… | 6 36 55·70 | …… | 5 | … |
| 837 | 16 Monocerotis | …… | + 8 44 56·3 | … | 3 |
| 838 | α Canis Majoris | 6 38 11·29 | …… | 13 | … |
| 839 | 17 Monocerotis | 6 38 44·93 | …… | 3 | … |
| 840 | 18 Monocerotis | …… | + 2 34 48·1 | … | 2 |
| 841 | $\psi^2$ Canis Majoris | 6 39 38·72 | −14 15 39·1 | 2 | 3 |
| 847 | 15 Lyncis | …… | +58 37 14·5 | … | 3 |
| 854 | θ Canis Majoris | …… | −11 50 41·5 | … | 3 |
| 860 | $\pi^3$ Canis Majoris | 6 48 46·37 | …… | 3 | … |
| 862 | μ Canis Majoris | 6 48 52·25 | −13 50 35·8 | 3 | 3 |
| 863 | ι Canis Majoris | 6 49 5·45 | −16 51 12·4 | 1 | 3 |
| 869 | ε Canis Majoris | …… | −28 45 39·3 | … | 5 |
| 872 | ζ Geminorum | 6 54 44·11 | …… | 4 | … |
| 873 | 19 Monocerotis | …… | − 4 0 53·8 | … | 3 |
| 878 | γ Canis Majoris | 6 56 36·65 | −15 24 14·9 | 1 | 3 |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
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| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 874 | ………… | 6 57 26·58 | ………… | 5 | ... |
| 887 | 22 Monocerotis | ………… | − 0 14 8·9 | ... | 2 |
| …… | Piazzi VI. 334 | 7 5 34·23 | +81 11 55·6 | 6 | 3 |
| …… | S.P. | ………… | +81 11 54·2 | ... | 3 |
| 892 | 64 Aurigæ | 7 7 2·32 | ………… | 3 | ... |
| 900 | δ Geminorum | 7 10 40·95 | +22 16 3·2 | 20 | 2 |
| 902 | 65 Aurigæ | 7 11 28·60 | +37 3 2·9 | 2 | 3 |
| 907 | 57 Geminorum | 7 13 50·24 | ………… | 3 | ... |
| 917 | β Canis Minoris | ………… | + 8 36 9·0 | ... | 2 |
| 920 | η Canis Minoris | ………… | + 7 15 30·3 | ... | 3 |
| 921 | γ Canis Minoris | ………… | + 9 14 25·0 | ... | 3 |
| 925 | $\delta^1$ Canis Minoris | ………… | + 2 14 39·7 | ... | 3 |
| 927 | $\alpha^2$ Geminorum | 7 24 30·62 | +32 13 42·4 | 30 | 5 |
| 930 | $\delta^2$ Canis Minoris | 7 24 54·56 | ………… | 3 | ... |
| 933 | υ Geminorum | 7 26 10·87 | ………… | 1 | ... |
| 934 | ………… | 7 27 47·85 | ………… | 2 | ... |
| 940 | 74 Geminorum | 7 30 20·86 | ………… | 2 | ... |
| 941 | α Canis Minoris | 7 31 1·68 | ………… | 35 | ... |
| 944 | 26 Monocerotis | ………… | − 9 11 13·6 | ... | 2 |
| 947 | κ Geminorum | 7 34 54·09 | +24 46 17·1 | 2 | 1 |
| 948 | β Geminorum | 7 35 38·38 | +28 24 7·9 | 38 | 6 |
| 959 | 6 Argus | 7 42 33·17 | −16 49 46·4 | 3 | 1 |
| 960 | ………… | 7 42 45·06 | ………… | 2 | ... |
| 962 | ζ Canis Minoris | 7 43 30·27 | + 2 9 55·9 | 4 | 3 |
| 964 | 9 Argus | ………… | −13 28 56·8 | ... | 3 |
| 966 | 10 Argus | 7 45 2·68 | −14 26 37·0 | 3 | 1 |
| 968 | ………… | ………… | + 9 16 39·7 | ... | 3 |
| 983 | 28 Monocerotis | 7 53 11·00 | ………… | 3 | ... |
| 985 | 13 Argus | ………… | + 2 45 51·2 | ... | 2 |
| 987 | 27 Lyncis | 7 56 32·69 | ………… | 3 | ... |
| 988 | 55 Camelopardi | 7 57 0·22 | +68 55 48·7 | 4 | 3 |
| 996 | 16 Argus | 8 1 58·55 | ………… | 3 | ... |
| 998 | ζ Cancri | 8 3 8·73 | ………… | 2 | ... |
| 1000 | 18 Argus | 8 3 20·51 | −13 20 16·2 | 3 | 2 |
| 1001 | 19 Argus | 8 3 51·61 | −12 27 43·3 | 3 | 1 |
| 1005 | 20 Argus | 8 6 4·41 | −15 18 55·9 | 3 | 2 |
| 1008 | β Cancri | 8 7 56·61 | + 9 40 4·8 | 2 | 3 |
| 1010 | 21 Argus | 8 10 8·58 | −15 47 56·5 | 3 | 2 |
| 1014 | 31 Lyncis | 8 11 59·95 | +43 41 19·6 | 3 | 3 |
| 1018 | 22 Argus | 8 15 21·36 | ………… | 2 | ... |
| 1021 | 1 Hydræ | 8 16 42·48 | − 3 14 33·8 | 1 | 2 |
| 1020 | ο Ursæ Majoris | 8 17 5·13 | ………… | 5 | ... |
| …… | Groombridge 1431 | 8 17 10·75 | +82 46 54·9 | 5 | 3 |
| …… | S.P. | ………… | +82 46 54·0 | ... | 3 |
| 1026 | ………… | 8 17 26·07 | + 8 4 31·1 | 3 | 3 |
| 1027 | 30 Monocerotis | 8 17 45·89 | − 3 23 42·5 | 3 | 1 |
| 1030 | 2 Hydræ | ………… | − 3 28 19·6 | ... | 3 |
| 1035 | θ Cancri | 8 22 34·77 | +18 37 26·8 | 1 | 1 |
| 1042 | $\pi^2$ Ursæ Majoris | 8 26 20·08 | ………… | 5 | ... |
| 1044 | ………… | ………… | + 7 10 0·8 | ... | 3 |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| ...... | ⁎ Dec. + 10° 16′ | 8 28 31·98 | ................ | 2 | ... |
| 1046 | δ Hydræ | .............. | + 6 15 1·1 | ... | 3 |
| 1047 | σ Hydræ | 8 30 29·84 | + 3 53 31·7 | 2 | 3 |
| 1057 | 6 Hydræ | .............. | −11 55 13·6 | ... | 3 |
| 1063 | 9 Hydræ | 8 34 23·59 | −15 22 43·1 | 1 | 3 |
| 1064 | η Hydræ | 8 34 57·86 | + 3 57 43·1 | 3 | 3 |
| 1066 | δ Cancri | 8 35 41·91 | ................ | 3 | ... |
| 1069 | ι Cancri | 8 37 7·52 | ................ | 2 | ... |
| 1073 | ε Hydræ | 8 38 24·31 | + 6 59 39·5 | 16 | 5 |
| 1074 | 12 Hydræ | 8 38 54·81 | ................ | 3 | ... |
| 1075 | .............................. | 8 39 14·45 | − 1 19 17·8 | 3 | 2 |
| 1076 | ϱ Hydræ | .............. | + 6 25 3·1 | ... | 3 |
| 1079 | 14 Hydræ | .............. | − 2 51 37·0 | ... | 3 |
| ...... | $\varrho^1$ Cancri | 8 42 58·00 | +28 50 50·9 | 3 | 3 |
| 1083 | $\varrho^2$ Cancri | 8 43 10·55 | +28 55 48·5 | 1 | 3 |
| 1089 | ζ Hydræ | .............. | + 6 32 34·4 | ... | 3 |
| 1097 | $\alpha^2$ Cancri | 8 49 50·42 | ................ | 3 | ... |
| 1104 | ω Hydræ | .............. | + 5 43 11·4 | ... | 2 |
| 1118 | 18 Ursæ Majoris | 9 4 46·79 | +54 40 8·6 | 5 | 1 |
| 1119 | 21 Hydræ | .............. | − 6 27 55·5 | ... | 3 |
| 1121 | θ Hydræ | 9 6 8·56 | + 2 58 39·5 | 3 | 3 |
| 1126 | 23 Hydræ | .............. | − 5 41 48·5 | ... | 3 |
| 1127 | 24 Hydræ | 9 8 57·07 | − 8 5 18·3 | 3 | 3 |
| 1125 | 38 Lyncis | 9 8 59·63 | +37 28 0·6 | 3 | 3 |
| 1130 | 83 Cancri | 9 10 9·29 | ................ | 1 | ... |
| 1131 | 40 Lyncis | .............. | +35 3 22·9 | ... | 3 |
| 1134 | 26 Hydræ | 9 12 9·88 | ................ | 3 | ... |
| 1135 | .............................. | 9 14 0·91 | ................ | 5 | ... |
| 1140 | ϰ Leonis | 9 15 26·54 | +26 51 30·8 | 3 | 3 |
| 1145 | 28 Hydræ | 9 17 30·09 | − 4 26 21·0 | 3 | 3 |
| 1146 | 23 Ursæ Majoris | 9 19 0·27 | +63 44 51·1 | 5 | 3 |
| 1147 | α Hydræ | 9 19 49·41 | − 7 58 36·0 | 8 | 5 |
| 1148 | 24 Ursæ Majoris | 9 20 23·67 | +70 31 8·3 | 2 | 3 |
| 1151 | $\tau^1$ Hydræ | .............. | − 2 4 53·0 | ... | 3 |
| 1154 | ξ Leonis | 9 23 25·44 | +11 59 47·7 | 2 | 1 |
| 1157 | $\tau^2$ Hydræ | .............. | − 0 29 26·4 | ... | 3 |
| 1158 | 10 Leonis Minoris | 9 24 31·65 | ................ | 3 | ... |
| 1161 | 33 Hydræ | 9 26 39·67 | ................ | 3 | ... |
| ...... | Groombridge 1562 | 9 28 11·89 | +79 51 13·8 | 5 | 3 |
| ...... | ................ S.P. | .............. | +79 51 13·4 | ... | 3 |
| 1170 | 13 Leonis | 9 32 32·57 | +26 37 43·8 | 3 | 3 |
| 1171 | ο Leonis | 9 32 42·78 | +10 36 30·4 | 6 | 2 |
| 1172 | ϰ Hydræ | .............. | −13 37 5·3 | ... | 3 |
| 1175 | ε Leonis | 9 36 52·33 | +24 29 55·0 | 22 | 5 |
| 1179 | υ Ursæ Majoris | 9 39 42·11 | ................ | 5 | ... |
| 1181 | φ Ursæ Majoris | 9 41 18·95 | ................ | 5 | ... |
| 1185 | 6 Sextantis | .............. | − 3 30 19·5 | ... | 3 |
| 1187 | μ Leonis | 9 43 46·03 | +26 44 52·2 | 3 | 5 |
| 1188 | $\upsilon^1$ Hydræ | 9 43 52·90 | −14 6 26·8 | 3 | 3 |
| 1190 | 8 Sextantis | 9 44 41·18 | − 7 21 48·8 | 3 | 3 |

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| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1197 | π Leonis | 9 51 51·58 | + 8 47 59·7 | 2 | 2 |
| 1204 | 21 Leonis Minoris | ...... | +36 0 42·7 | ... | 3 |
| 1208 | 15 Sextantis | 9 59 51·03 | + 0 23 55·0 | 3 | 3 |
| 1209 | α Leonis | 9 59 57·13 | +12 44 13·5 | 39 | 4 |
| 1211 | 17 Sextantis | 10 2 16·65 | ...... | 3 | ... |
| 1213 | 18 Sextantis | 10 3 4·51 | − 7 38 28·2 | 3 | 3 |
| 1215 | ...... | 10 3 24·38 | − 6 32 24·6 | 3 | 3 |
| 1218 | 21 Sextantis | ...... | − 7 12 41·0 | ... | 3 |
| 1219 | λ Ursæ Majoris | ...... | +43 42 1·6 | ... | 5 |
| ...... | 35 Leonis | 10 7 46·82 | +24 17 10·0 | 3 | 3 |
| 1221 | ζ Leonis | 10 7 53·52 | +24 12 8·3 | 3 | 3 |
| 1224 | 22 Sextantis | ...... | − 7 16 54·7 | ... | 3 |
| 1228 | γ Leonis | ...... | +20 38 18·6 | ... | 3 |
| ...... | Piazzi X. 22 | 10 11 11·15 | +83 21 25·0 | 5 | 3 |
| ...... | ...... S.P. | ...... | +83 21 24·2 | ... | 3 |
| 1239 | 26 Sextantis | ...... | − 0 11 10·7 | ... | 3 |
| 1240 | 31 Leonis Minoris | 10 18 43·63 | +37 30 52·4 | 3 | 3 |
| 1241 | 27 Sextantis | 10 18 47·97 | − 3 35 9·5 | 3 | 3 |
| 1244 | 36 Ursæ Majoris | 10 20 28·39 | +56 47 18·3 | 3 | 3 |
| 1245 | ...... | ...... | − 2 56 9·5 | ... | 3 |
| 1246 | 28 Sextantis | ...... | − 1 55 55·4 | ... | 3 |
| 1254 | ϱ Leonis | 10 24 29·34 | ...... | 2 | ... |
| 1255 | 37 Ursæ Majoris | 10 24 56·30 | ...... | 5 | ... |
| 1256 | 48 Leonis | 10 26 33·37 | + 7 45 53·3 | 2 | 1 |
| 1261 | 37 Leonis Minoris | 10 29 48·76 | ...... | 3 | ... |
| 1265 | φ³ Hydræ et Crateris | ...... | −16 3 26·6 | ... | 3 |
| 1266 | ...... | ...... | +69 54 1·2 | ... | 3 |
| 1269 | 40 Leonis Minoris | ...... | +27 9 12·4 | ... | 3 |
| 1270 | 34 Sextantis | 10 34 27·90 | ...... | 2 | ... |
| 1271 | 41 Leonis Minoris | 10 34 48·98 | +24 0 50·0 | 3 | 3 |
| 1274 | 42 Leonis Minoris | 10 37 3·93 | ...... | 3 | ... |
| 1278 | 51 Leonis | 10 37 53·37 | ...... | 3 | ... |
| 1285 | 44 Leonis Minoris | ...... | +28 48 23·7 | ... | 3 |
| 1286 | 40 Sextantis | ...... | − 3 11 22·5 | ... | 3 |
| 1287 | ν Hydræ et Crateris | ...... | −15 22 4·6 | ... | 3 |
| 1288 | 41 Sextantis | 10 42 22·58 | − 8 3 42·7 | 3 | 3 |
| 1289 | 46 Leonis Minoris | 10 44 27·58 | +35 3 54·3 | 3 | 3 |
| 1291 | ω Ursæ Majoris | 10 44 51·73 | +44 1 46·9 | 3 | 3 |
| 1292 | 6 Hydræ et Crateris | ...... | −19 17 19·6 | ... | 3 |
| 1293 | 54 Leonis | 10 47 2·89 | +25 35 28·0 | 3 | 3 |
| 1297 | 50 Leonis Minoris | 10 47 59·46 | +26 20 33·7 | 3 | 3 |
| 1301 | β Ursæ Majoris | ...... | +57 13 40·7 | ... | 5 |
| 1302 | 58 Leonis | 10 52 24·04 | ...... | 3 | ... |
| 1306 | 60 Leonis | 10 53 53·23 | +21 1 35·4 | 3 | 3 |
| 1310 | χ Leonis | 10 56 51·92 | + 8 11 20·3 | 2 | 1 |
| 1320 | δ Leonis | 11 5 41·86 | +21 23 18·6 | 24 | 5 |
| 1323 | θ Leonis | ...... | +16 17 32·7 | ... | 5 |
| 1324 | 72 Leonis | ...... | +23 57 22·2 | ... | 3 |
| 1329 | ξ Ursæ Majoris | 11 9 44·54 | +32 25 2·5 | 3 | 3 |
| 1330 | ν Ursæ Majoris | 11 9 55·88 | +33 57 20·6 | 3 | 3 |

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| 1331 | 55 Ursæ Majoris | …… | +39 3 5·1 | ... | 3 |
| 1333 | δ Hydræ et Crateris | 11 11 26·75 | …… | 5 | ... |
| 1337 | λ Hydræ et Crateris | …… | −17 54 41·6 | ... | 3 |
| 1340 | ι Hydræ et Crateris | …… | − 9 59 34·5 | ... | 3 |
| 1342 | γ Hydræ et Crateris | 11 16 59·72 | −16 48 59·4 | 3 | 3 |
| 1343 | 81 Leonis | 11 17 21·85 | +17 19 29·3 | 3 | 3 |
| 1346 | κ Hydræ et Crateris | …… | −11 29 18·7 | ... | 3 |
| …… | Groombridge 1782 | 11 20 25·92 | +81 59 45·9 | 5 | 3 |
| …… | …… S.P. | …… | +81 59 43·3 | ... | 3 |
| 1349 | 85 Leonis | …… | +16 17 8·2 | ... | 3 |
| 1350 | λ Draconis | …… | +70 12 9·6 | ... | 3 |
| 1351 | 86 Leonis | …… | +19 16 46·8 | ... | 3 |
| 1358 | 90 Leonis | 11 26 28·82 | +17 40 12·3 | 3 | 3 |
| 1359 | …… | 11 27 58·49 | +28 39 16·1 | 3 | 3 |
| 1361 | θ Hydræ et Crateris | …… | − 8 55 41·9 | ... | 3 |
| 1362 | υ Leonis | 11 28 51·66 | + 0 2 53·9 | 3 | 2 |
| 1365 | 24 Hydræ et Crateris | …… | −12 19 54·6 | ... | 3 |
| 1366 | 92 Leonis | …… | +22 13 49·6 | ... | 3 |
| 1368 | ζ Hydræ et Crateris | …… | −17 28 17·9 | ... | 3 |
| 1370 | χ Ursæ Majoris | …… | +48 39 19·8 | ... | 3 |
| 1373 | 93 Leonis | …… | +21 5 49·3 | ... | 3 |
| 1375 | β Leonis | 11 40 59·81 | +15 27 20·0 | 21 | 5 |
| 1376 | β Virginis | 11 42 28·07 | + 2 39 19·4 | 4 | 2 |
| 1382 | η Hydræ et Crateris | …… | −16 16 14·4 | ... | 3 |
| 1387 | 31 Hydræ et Crateris | …… | +18 46 44·3 | ... | 3 |
| 1389 | 1 Comæ Berenices | …… | +22 58 30·2 | ... | 3 |
| 1391 | 2 Comæ Berenices | …… | +22 20 22·5 | ... | 3 |
| …… | Groombridge 1858 | 12 3 45·88 | +82 35 22·7 | 5 | 3 |
| …… | …… S.P. | …… | +82 35 20·3 | ... | 3 |
| 1402 | 4 Comæ Berenices | …… | +26 45 3·3 | ... | 3 |
| 1403 | 5 Comæ Berenices | …… | +21 25 20·4 | ... | 3 |
| 1405 | 12 Virginis | …… | +11 8 32·5 | ... | 3 |
| 1407 | δ Ursæ Majoris | …… | +57 54 39·8 | ... | 5 |
| 1408 | γ Corvi | 12 7 41·34 | −16 39 49·7 | 3 | 5 |
| 1409 | 6 Comæ Berenices | 12 7 58·67 | +15 46 45·4 | 3 | 3 |
| 1410 | 7 Comæ Berenices | 12 8 20·53 | +24 49 29·0 | 3 | 3 |
| 1414 | 8 Comæ Berenices | …… | +23 54 48·0 | ... | 3 |
| 1415 | η Virginis | 12 11 49·50 | …… | 1 | ... |
| 1416 | 10 Comæ Berenices | …… | +29 20 33·9 | ... | 3 |
| 1419 | 11 Comæ Berenices | …… | +18 40 0·7 | ... | 3 |
| 1420 | …… | …… | −12 41 17·1 | ... | 3 |
| 1423 | 12 Comæ Berenices | 12 14 33·37 | +26 43 25·1 | 3 | 3 |
| 1425 | 13 Comæ Berenices | 12 16 22·55 | +26 58 32·4 | 3 | 3 |
| 1428 | 14 Comæ Berenices | 12 18 29·46 | +28 8 40·7 | 2 | 3 |
| 1429 | 15 Comæ Berenices | 12 19 3·41 | +29 8 51·1 | 3 | 3 |
| 1430 | 16 Comæ Berenices | 12 19 4·89 | +27 42 5·5 | 3 | 3 |
| 1435 | 17 Comæ Berenices | …… | +26 47 18·0 | ... | 3 |
| 1437 | δ Corvi | …… | −15 38 4·5 | ... | 5 |
| 1442 | 21 Comæ Berenices | 12 23 6·83 | +25 26 28·9 | 3 | 3 |
| 1444 | η Corvi | 12 23 56·11 | −15 19 10·2 | 3 | 3 |

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| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1445 | 20 Virginis | …………… | +11 10 7·4 | … | 3 |
| 1446 | 21 Virginis | 12 25 37·68 | − 8 34 44·8 | 1 | 1 |
| 1447 | 22 Comæ Berenices | 12 25 41·42 | +25 9 22·2 | 3 | 3 |
| 1449 | 8 Canum Venaticorum | 12 26 13·55 | +42 13 0·7 | 3 | 3 |
| 1450 | κ Draconis | …………… | +70 39 37·4 | … | 3 |
| 1451 | 23 Comæ Berenices | 12 26 58·34 | +23 30 2·1 | 3 | 3 |
| 1452 | 24 Comæ Berenices | 12 27 12·12 | +19 14 53·3 | 3 | 3 |
| 1455 | 25 Comæ Berenices | 12 29 2·78 | +17 57 41·3 | 3 | 3 |
| 1461 | 26 Comæ Berenices | …………… | +21 55 57·6 | … | 3 |
| 1464 | 27 Virginis | …………… | +11 17 41·0 | … | 3 |
| 1468 | ρ Virginis | …………… | +11 6 28·4 | … | 3 |
| 1469 | 31 Virginis | 12 33 56·89 | + 7 40 30·9 | 3 | 3 |
| 1472 | 33 Virginis | 12 38 20·91 | +10 25 29·6 | 3 | 3 |
| 1474 | 27 Comæ Berenices | 12 38 45·09 | +17 26 32·0 | 3 | 3 |
| 1475 | 34 Virginis | 12 39 16·41 | +12 49 23·9 | 3 | 3 |
| 1478 | 29 Comæ Berenices | …………… | +14 59 12·8 | … | 3 |
| 1479 | 30 Comæ Berenices | …………… | +28 24 50·9 | … | 3 |
| 1482 | 31 Comæ Berenices | …………… | +28 24 7·3 | … | 3 |
| 1486 | 35 Comæ Berenices | …………… | +22 6 20·1 | … | 3 |
| 1487 | 41 Virginis | 12 45 54·05 | +13 16 45·3 | 3 | 3 |
| 1488 | ψ Virginis | 12 46 8·52 | − 8 40 46·1 | 1 | 1 |
| 1489 | ε Ursæ Majoris | 12 47 3·73 | +56 49 8·0 | 3 | 5 |
| 1492 | 12 Canum Venaticorum | 12 48 37·67 | ……………… | 20 | … |
| 1493 | 36 Comæ Berenices | …………… | +18 15 45·5 | … | 3 |
| 1497 | 37 Comæ Berenices | …………… | +31 38 20·0 | … | 3 |
| 1498 | 38 Comæ Berenices | …………… | +17 58 37·1 | … | 3 |
| 1499 | ε Virginis | …………… | +11 48 37·4 | … | 3 |
| 1503 | 14 Canum Venaticorum | …………… | +36 38 44·8 | … | 3 |
| 1504 | 39 Comæ Berenices | 12 58 39·03 | +22 0 10·2 | 3 | 3 |
| 1505 | 40 Comæ Berenices | 12 58 41·06 | +23 27 57·0 | 3 | 3 |
| 1507 | 41 Comæ Berenices | 12 59 35·60 | +28 28 28·2 | 3 | 3 |
| 1508 | ……………………………… | …………… | +28 24 15·5 | … | 3 |
| 1511 | θ Virginis | 13 1 46·55 | ……………… | 1 | … |
| 1513 | 42 Comæ Berenices | …………… | +18 22 1·5 | … | 3 |
| 1514 | 53 Virginis | 13 3 39·68 | ……………… | 1 | … |
| 1515 | 43 Comæ Berenices | …………… | +28 40 50·7 | … | 3 |
| 1516 | ……………………………… | …………… | +12 23 55·2 | … | 3 |
| 1519 | 57 Virginis | 13 7 26·86 | −19 6 1·1 | 3 | 3 |
| 1520 | 59 Virginis | 13 8 56·04 | +10 15 7·3 | 3 | 3 |
| 1522 | σ Virginis | 13 9 37·75 | + 6 18 16·1 | 3 | 3 |
| 1525 | 20 Canum Venaticorum | …………… | +41 24 21·9 | … | 3 |
| …… | Groombridge 1977 | 13 11 6·20 | +81 18 29·6 | 5 | 3 |
| …… | ……………… S.P. | …………… | +81 18 27·0 | … | 3 |
| 1526 | 21 Canum Venaticorum | …………… | +50 30 53·3 | … | 3 |
| 1529 | 64 Virginis | …………… | + 5 59 8·3 | … | 3 |
| 1533 | α Virginis | 13 16 52·62 | −10 20 2·6 | 29 | 5 |
| 1537 | 80 Ursæ Majoris | …………… | +55 48 46·0 | … | 3 |
| 1538 | 70 Virginis | …………… | +14 37 30·3 | … | 3 |
| 1541 | 71 Virginis | …………… | +11 38 23·9 | … | 3 |
| 1549 | 78 Virginis | …………… | + 4 28 22·8 | … | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1555 | 1 Bootis | ... | +20 45 26·7 | ... | 3 |
| 1557 | 2 Bootis | ... | +23 17 56·8 | ... | 3 |
| 1558 | 84 Virginis | ... | + 4 20 24·6 | ... | 3 |
| 1568 | 3 Bootis | ... | +26 29 51·3 | ... | 3 |
| 1569 | τ Bootis | ... | +18 14 49·0 | ... | 3 |
| 1575 | η Ursæ Majoris | ... | +50 6 14·2 | ... | 5 |
| 1583 | 7 Bootis | ... | +18 42 52·2 | ... | 3 |
| 1586 | 10 Draconis | ... | +65 30 20·5 | ... | 3 |
| 1587 | η Bootis | 13 47 9·69 | ... | 20 | ... |
| 1590 | 9 Bootis | ... | +28 16 10·5 | ... | 3 |
| 1614 | ... | ... | + 3 9 24·2 | ... | 3 |
| 1615 | ϰ Virginis | 14 4 28·66 | ... | 1 | ... |
| ... | 3 Ursæ Minoris | 14 5 45·21 | +75 20 34·5 | 5 | 3 |
| ... | ... S.P. | ... | +75 20 32·4 | ... | 3 |
| 1616 | 14 Bootis | ... | +13 42 14·3 | ... | 3 |
| 1618 | 15 Bootis | 14 7 6·78 | +10 50 53·2 | 1 | 3 |
| 1620 | α Bootis | 14 8 27·38 | +20 0 28·0 | 44 | 5 |
| 1621 | ... | 14 8 38·53 | +19 39 2·3 | 3 | 3 |
| 1624 | λ Virginis | 14 10 34·20 | −12 38 25·6 | 4 | 2 |
| 1626 | 102 Virginis | ... | − 1 31 52·9 | ... | 2 |
| 1627 | 18 Bootis | ... | +13 44 13·0 | ... | 3 |
| 1628 | 20 Bootis | ... | +17 2 2·5 | ... | 3 |
| 1629 | 103 Virginis | 14 13 50·45 | − 1 15 43·1 | 3 | 3 |
| 1632 | ... | 14 15 36·77 | + 9 10 9·5 | 3 | 3 |
| 1636 | ... | 14 16 19·83 | + 6 32 25·6 | 3 | 3 |
| 1639 | ϑ Bootis | ... | +52 35 0·8 | ... | 3 |
| 1645 | 26 Bootis | ... | +22 57 33·4 | ... | 1 |
| 1646 | γ Bootis | ... | +39 0 7·6 | ... | 3 |
| 1650 | σ Bootis | 14 27 48·03 | +30 26 5·3 | 3 | 3 |
| 1662 | 31 Bootis | 14 33 53·39 | + 8 50 29·8 | 3 | 2 |
| 1664 | 32 Bootis | 14 34 8·30 | ... | 3 | ... |
| 1666 | 34 Bootis | 14 36 28·77 | +27 12 11·5 | 3 | 3 |
| 1670 | 35 Bootis | 14 37 52·29 | +17 38 13·6 | 3 | 3 |
| 1672 | ε Bootis | 14 38 5·21 | ... | 20 | ... |
| 1674 | 109 Virginis | 14 38 15·93 | + 2 33 46·6 | 3 | 3 |
| 1681 | $\alpha^2$ Libræ | 14 42 8·89 | −15 22 51·2 | 11 | 5 |
| 1686 | ξ Bootis | 14 44 6·20 | ... | 3 | ... |
| 1694 | 16 Libræ | 14 48 56·42 | − 3 41 54·3 | 3 | 3 |
| 1696 | 1 Serpentis | ... | + 0 28 24·3 | ... | 3 |
| 1698 | ... | ... | +17 1 41·5 | ... | 3 |
| 1700 | β Ursæ Minoris | 14 51 14·21 | +74 48 4·7 | 5 | 5 |
| ... | ... S.P. | ... | +74 48 2·7 | ... | 5 |
| 1705 | 20 Libræ | 14 54 50·29 | ... | 1 | ... |
| 1710 | ψ Bootis | ... | +27 34 3·2 | ... | 3 |
| 1714 | 44 Bootis | 14 58 35·04 | +48 16 21·0 | 3 | 3 |
| 1720 | ... | ... | +25 43 0·8 | ... | 2 |
| ... | Groombridge 2213 | 15 8 19·08 | +84 33 37·9 | 5 | 3 |
| ... | ... S.P. | ... | +84 33 36·3 | ... | 3 |
| 1727 | 3 Serpentis | ... | + 5 31 50·0 | ... | 3 |
| 1729 | 4 Serpentis | ... | + 0 57 40·0 | ... | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1730 | χ Bootis | ............... | +29 45 15·3 | ... | 3 |
| 1732 | β Libræ | 15 8 30·70 | ................ | 10 | ... |
| 1733 | δ Bootis | ............... | +33 54 27·9 | ... | 2 |
| 1743 | 6 Serpentis | ............... | + 1 17 42·0 | ... | 1 |
| 1745 | 7 Serpentis | ............... | +13 8 16·3 | ... | 3 |
| 1748 | 9 Serpentis | 15 18 27·84 | +15 59 17·5 | 2 | 3 |
| 1749 | μ Bootis | 15 18 31·34 | +37 56 4·4 | 3 | 3 |
| 1751 | 10 Serpentis | ............... | + 2 23 44·5 | ... | 3 |
| 1752 | ............................... | ............... | −16 42 22·1 | ... | 1 |
| 1753 | β Coronæ Borealis | ............... | +29 39 14·4 | ... | 3 |
| 1754 | $\gamma^2$ Ursæ Majoris | 15 21 1·63 | +72 23 47·1 | 5 | 3 |
| 1756 | ι Draconis | 15 21 25·64 | ................ | 2 | ... |
| 1765 | θ Coronæ Borealis | 15 26 33·55 | +31 53 47·1 | 3 | 2 |
| 1767 | δ Serpentis | 15 27 15·44 | +11 4 18·2 | 3 | 2 |
| 1770 | α Coronæ Borealis | 15 27 59·99 | +27 15 1·0 | 33 | 5 |
| 1771 | 15 Serpentis | ............... | +18 11 10·4 | ... | 3 |
| 1772 | 14 Serpentis | ............... | − 0 1 56·0 | ... | 3 |
| 1775 | 16 Serpentis | 15 28 54·24 | ................ | 3 | ... |
| 1777 | μ Coronæ Borealis | 15 29 27·05 | +39 32 18·1 | 3 | 3 |
| 1781 | ϰ Libræ | 15 32 51·25 | −19 9 40·0 | 2 | 1 |
| 1784 | χ Serpentis | 15 34 21·55 | +13 21 33·3 | 3 | 3 |
| 1785 | ι Serpentis | 15 34 30·50 | +20 10 59·6 | 3 | 3 |
| 1786 | 22 Serpentis | 15 34 48·26 | +18 58 18·7 | 3 | 3 |
| 1789 | ψ Serpentis | 15 36 5·48 | + 3 1 35·9 | 3 | 1 |
| 1790 | γ Coronæ Borealis | 15 36 6·54 | +26 47 59·8 | 3 | 3 |
| 1791 | α Serpentis | 15 36 29·36 | ................ | 16 | ... |
| 1793 | 26 Serpentis | 15 37 31·65 | +17 45 57·0 | 3 | 3 |
| 1794 | 25 Serpentis | 15 37 55·70 | − 1 18 13·8 | 3 | 3 |
| 1795 | λ Serpentis | 15 38 46·78 | + 7 51 10·2 | 3 | 3 |
| 1796 | β Serpentis | 15 38 53·85 | +15 55 15·6 | 3 | 3 |
| 1799 | μ Serpentis | ............... | − 2 56 27·9 | ... | 1 |
| 1802 | ω Serpentis | 15 42 19·34 | + 2 41 2·5 | 2 | 3 |
| 1803 | ε Serpentis | 15 42 56·71 | + 4 57 29·2 | 3 | 2 |
| 1805 | δ Coronæ Borealis | 15 42 58·25 | +26 33 21·7 | 3 | 3 |
| 1804 | 36 Serpentis | 15 43 2·25 | − 2 36 26·1 | 3 | 3 |
| 1809 | ϱ Serpentis | 15 44 19·66 | +21 27 26·2 | 3 | 3 |
| 1813 | ϰ Coronæ Borealis | 15 45 16·84 | +36 9 3·6 | 3 | 3 |
| 1817 | ............................... | ............... | +20 46 43·3 | ... | 3 |
| 1818 | ϖ Scorpii | 15 49 18·32 | ................ | 2 | ... |
| 1819 | γ Serpentis | 15 49 9·50 | +16 10 53·5 | 3 | 1 |
| 1824 | ζ Ursæ Minoris | 15 49 50·35 | +78 16 39·2 | 5 | 5 |
| ...... | .................... S.P. | ............... | +78 16 36·6 | ... | 5 |
| 1827 | 50 Libræ | 15 52 16·26 | − 7 57 32·7 | 3 | 3 |
| 1828 | 3 Herculis | 15 53 0·76 | + 4 52 29·1 | 3 | 3 |
| 1830 | 5 Herculis | 15 54 8·52 | +18 15 34·3 | 3 | 3 |
| 1832 | ϖ Serpentis | 15 55 29·64 | +23 14 49·8 | 3 | 3 |
| 1834 | 43 Serpentis | 15 55 57·23 | + 5 25 35·8 | 3 | 3 |
| 1836 | $\beta^1$ Scorpii | 15 56 15·55 | −19 22 0·5 | 3 | 5 |
| 1839 | ν Herculis | 15 57 52·69 | +46 28 42·0 | 3 | 3 |
| 1842 | θ Draconis | ............... | +58 59 20·9 | ... | 1 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1846 | 47 Serpentis | 16 0 51·13 | + 8 57 34·5 | 2 | 1 |
| 1847 | $\kappa^1$ Herculis | 16 0 56·85 | +17 28 21·7 | 4 | 3 |
| 1853 | 16 Scorpii | …… | − 8 8 0·2 | … | 3 |
| 1855 | 48 Serpentis | …… | +17 4 45·6 | … | 3 |
| 1856 | 10 Herculis | …… | +23 54 27·7 | … | 3 |
| 1858 | 9 Herculis | 16 5 26·65 | + 5 25 47·4 | 3 | 3 |
| 1859 | δ Ophiuchi | 16 6 4·26 | …… | 8 | … |
| 1860 | 18 Scorpii | 16 7 2·34 | − 7 56 43·3 | 3 | 3 |
| 1865 | …… | 16 8 37·00 | − 3 33 24·0 | 3 | 3 |
| 1867 | 17 Herculis | 16 9 32·66 | +23 31 11·7 | 3 | 3 |
| 1869 | ε Ophiuchi | 16 9 57·96 | − 4 18 6·3 | 3 | 1 |
| 1872 | σ Scorpii | 16 11 35·70 | …… | 1 | … |
| 1875 | γ Herculis | 16 14 57·12 | …… | 3 | … |
| 1876 | τ Herculis | 16 14 59·65 | +46 41 34·9 | 3 | 3 |
| …… | 19 Ursæ Minoris | 16 15 25·11 | +76 16 22·8 | 5 | 3 |
| …… | …… S.P. | …… | +76 16 19·9 | … | 3 |
| 1879 | ξ Coronæ Borealis | 16 15 56·48 | +31 15 45·1 | 3 | 3 |
| 1880 | $\nu^1$ Coronæ Borealis | 16 16 24·60 | +34 10 29·3 | 3 | 3 |
| 1881 | $\nu^2$ Coronæ Borealis | …… | +34 4 29·3 | … | 3 |
| 1883 | 51 Serpentis | 16 18 7 55 | +14 24 7·5 | 3 | 3 |
| 1884 | υ Ophiuchi | 16 19 15·69 | − 8 0 44·9 | 3 | 3 |
| 1885 | α Scorpii | 16 19 43·76 | −26 4 29·7 | 6 | 5 |
| 1887 | 25 Herculis | 16 19 46·57 | +37 45 25·6 | 3 | 3 |
| 1895 | η Ursæ Minoris | 16 22 12·05 | …… | 5 | … |
| 1894 | λ Ophiuchi | …… | + 2 20 7·2 | … | 3 |
| 1896 | β Herculis | 16 23 25·74 | …… | 3 | … |
| 1897 | 30 Herculis | 16 23 27·15 | +42 13 57·9 | 3 | 3 |
| 1898 | 28 Herculis | 16 24 49·38 | + 5 51 45·6 | 3 | 3 |
| 1899 | 29 Herculis | 16 25 12·88 | +11 49 57·4 | 3 | 4 |
| 1901 | 12 Ophiuchi | 16 28 3·76 | …… | 3 | … |
| 1903 | 15 Draconis | 16 28 19·22 | +69 6 35·9 | 5 | 3 |
| 1902 | ζ Ophiuchi | 16 28 27·80 | −10 14 28·6 | 3 | 2 |
| 1905 | σ Herculis | 16 29 0·71 | +42 45 57·8 | 3 | 3 |
| 1904 | 33 Herculis | 16 29 11·32 | + 7 26 0·2 | 3 | 3 |
| 1912 | 16 Ophiuchi | 16 37 28·20 | + 1 18 57·2 | 3 | 1 |
| 1913 | η Herculis | 16 37 29·00 | +39 13 35·7 | 3 | 1 |
| 1914 | 43 Herculis | 16 38 14·90 | + 8 52 32·9 | 3 | 3 |
| 1918 | 18 Draconis | 16 39 50·44 | +64 53 21·2 | 2 | 3 |
| 1916 | 45 Herculis | 16 39 59·91 | + 5 32 7·6 | 3 | 3 |
| 1922 | 47 Herculis | …… | + 7 31 32·4 | … | 1 |
| 1923 | 21 Ophiuchi | 16 43 24·39 | + 1 29 26·2 | 3 | 3 |
| 1925 | 50 Herculis | 16 44 29·13 | +30 4 48·4 | 3 | 3 |
| 1926 | 52 Herculis | 16 44 36·89 | +46 15 41·1 | 3 | 3 |
| 1927 | 49 Herculis | 16 44 53·45 | +15 14 39·5 | 3 | 3 |
| 1930 | 51 Herculis | 16 45 12·29 | +24 55 35·1 | 3 | 3 |
| 1931 | 23 Ophiuchi | 16 46 9·27 | − 5 53 22·2 | 3 | 3 |
| 1932 | ι Ophiuchi | 16 46 32·12 | +10 25 50·4 | 3 | 3 |
| 1935 | 53 Herculis | 16 46 58·71 | +31 58 1·8 | 3 | 3 |
| 1938 | 54 Herculis | …… | +18 41 25·9 | … | 3 |
| 1942 | …… | 16 50 32·66 | …… | 2 | … |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 1945 | 30 Ophiuchi ................ | ................ | − 3 58 47·7 | ... | 3 |
| 1948 | ε Herculis .................... | 16 54 14·77 | ................. | 3 | ... |
| 1950 | 19 Draconis......... ........ | 16 55 10·57 | ................. | 5 | ... |
| 1952 | 59 Herculis.................... | ................ | +33 48 3·2 | ... | 3 |
| 1951 | ................................ | 16 55 48·37 | −10 51 37·8 | 3 | 3 |
| 1953 | 32 Ophiuchi ................ | ................ | +14 19 28·5 | ... | 3 |
| 1956 | ................................ | ................ | − 0 40 9·9 | ... | 3 |
| 1957 | 60 Herculis.................... | 16 58 3·25 | +12 57 46·9 | 3 | 3 |
| 1961 | η Ophiuchi.............. .... | 17 1 19·42 | ................. | 2 | ... |
| 1964 | ε Ursæ Minoris ............ | 17 2 23·43 | +82 17 13·4 | 5 | 6 |
| ...... | .................. S.P. ...... | ................ | +82 17 10·1 | ... | 5 |
| 1962 | μ Draconis .................. | ................ | +54 40 51·8 | ... | 1 |
| 1963 | ................................ | 17 2 26·18 | +36 8 38·7 | 3 | 3 |
| 1966 | 37 Ophiuchi ................ | 17 5 1·08 | +10 46 54·2 | 3 | 3 |
| ...... | Groombridge 2427......... | 17 6 41·38 | +75 30 47·3 | 5 | 3 |
| ...... | ...................... S.P. .. | ................ | +75 30 45·3 | ... | 3 |
| 1970 | α Herculis .................. | 17 7 26·70 | +14 34 32·3 | 12 | 5 |
| 1977 | ζ Draconis.................... | 17 8 20·65 | ................. | 5 | ... |
| 1975 | 41 Ophiuchi ................ | 17 8 30·15 | − 0 15 40·4 | 3 | 3 |
| 1976 | δ Herculis.................... | 17 8 32·68 | +25 1 48·2 | 3 | 3 |
| 1978 | π Herculis .................. | 17 9 32·69 | +36 59 27·8 | 3 | 3 |
| 1987 | 69 Herculis.................... | 17 12 13·47 | +37 27 39·6 | 3 | 1 |
| 1986 | θ Ophiuchi .................. | 17 12 18·82 | ................. | 2 | ... |
| 1989 | 70 Herculis.................... | ................ | +24 39 41·6 | ... | 3 |
| 1996 | 73 Herculis.................... | 17 17 30·08 | ................. | 3 | ... |
| 1999 | ρ Herculis .................. | 17 18 14·13 | +37 17 41·2 | 3 | 3 |
| 1998 | ................................ | 17 18 15·00 | ................. | 3 | ... |
| 2000 | σ Ophiuchi .................. | 17 18 40·67 | + 4 16 59·4 | 3 | 3 |
| 2003 | ................................ | ................ | +20 13 13·2 | ... | 3 |
| 2008 | ................................ | ................ | + 2 50 55·4 | ... | 3 |
| 2009 | λ Herculis .................. | 17 24 21·27 | +26 14 3·3 | 3 | 3 |
| 2013 | 78 Herculis.................... | 17 25 37·45 | +28 31 35·0 | 3 | 3 |
| 2014 | 54 Ophiuchi.................. | 17 27 5·68 | +13 16 28·0 | 3 | 3 |
| 2015 | 53 Ophiuchi ................ | 17 27 6·84 | ................. | 3 | ... |
| 2017 | α Ophiuchi .................. | 17 27 36·15 | +12 40 48·5 | 28 | 5 |
| 2022 | ν¹ Draconis.................. | 17 29 4·19 | +55 17 39·4 | 3 | 3 |
| 2023 | ν² Draconis .................. | 17 29 9·70 | +55 16 57·6 | 3 | 3 |
| 2021 | μ Ophiuchi .................. | 17 29 15·56 | − 8 0 58·8 | 3 | 3 |
| 2034 | ................................ | 17 34 53·39 | ................. | 3 | ... |
| 2035 | ι Herculis .................. | ................ | +46 5 37·0 | ... | 1 |
| 2036 | β Ophiuchi .................. | 17 35 40·15 | + 4 38 21·6 | 3 | 2 |
| 2038 | 84 Herculis.................... | 17 36 52·70 | +24 24 3·4 | 3 | 3 |
| 2039 | 3 Sagittarii .................. | 17 37 37·19 | ................. | 1 | ... |
| 2041 | ω Draconis .................. | 17 37 53·21 | +68 49 50·1 | 5 | 3 |
| 2045 | γ Ophiuchi .................. | 17 39 58·35 | + 2 46 20·0 | 3 | 2 |
| 2048 | 87 Herculis.................... | ................ | +25 40 47·3 | ... | 3 |
| 2051 | ................................ | 17 48 27·27 | − 4 3 10·0 | 3 | 3 |
| 2053 | 89 Herculis.................... | 17 49 2·88 | +26 4 46·6 | 3 | 3 |
| 2054 | 4 Sagittarii ............ .... | 17 50 8·92 | ................. | 1 | ... |
| 2059 | ξ Draconis .................... | 17 50 48·14 | ................. | 3 | ... |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2058 | θ Herculis | 17 50 50·14 | +37 16 30·3 | 3 | 2 |
| 2060 | ξ Herculis | …… | +29 16 9·8 | … | 3 |
| 2061 | ζ Serpentis | 17 52 8·37 | − 3 40 25·1 | 3 | 3 |
| 2065 | ν Herculis | …… | +30 12 23·8 | … | 3 |
| 2064 | 66 Ophiuchi | …… | + 4 22 59·8 | … | 3 |
| 2066 | 67 Ophiuchi | 17 52 43·90 | + 2 56 42·0 | 3 | 3 |
| 2068 | 93 Herculis | …… | +16 45 53·4 | … | 3 |
| 2072 | 68 Ophiuchi | 17 53 44·48 | + 1 18 53·9 | 3 | 3 |
| 2075 | τ Ophiuchi | 17 54 28·78 | − 8 10 25·5 | 3 | 3 |
| 2077 | 95 Herculis | 17 54 47·97 | +21 36 3·2 | 3 | 3 |
| 2080 | 96 Herculis | 17 55 38·02 | +20 50 16·4 | 3 | 3 |
| 2079 | $\gamma^2$ Sagittarii | 17 55 39·64 | …… | 1 | … |
| 2081 | 97 Herculis | 17 55 54·01 | +22 55 36·5 | 3 | 3 |
| 2084 | …… | 17 56 31·82 | …… | 2 | … |
| 2082 | 70 Ophiuchi | 17 57 28·26 | + 2 32 34·0 | 3 | 3 |
| 2087 | 98 Herculis | 17 59 22·74 | +22 12 31·9 | 3 | 3 |
| 2089 | 71 Ophiuchi | 17 59 45·14 | + 8 43 9·4 | 3 | 3 |
| 2090 | 72 Ophiuchi | 17 59 51·59 | + 9 32 49·3 | 3 | 2 |
| 2092 | 73 Ophiuchi | …… | + 3 58 20·7 | … | 1 |
| 2094 | 102 Herculis | …… | +20 47 39·5 | … | 3 |
| 2095 | 101 Herculis | 18 2 4·19 | +20 1 30·7 | 3 | 3 |
| 2096 | $\mu^1$ Sagittarii | 18 4 18·67 | −21 5 35·7 | 1 | 5 |
| 2100 | 104 Herculis | 18 5 57·56 | +31 22 12·4 | 3 | 3 |
| …… | 40 Draconis | 18 11 50·98 | +79 58 21·3 | 5 | 3 |
| …… | …… S.P. | …… | +79 58 19·2 | … | 3 |
| …… | 41 Draconis S.P. | …… | +79 58 21·9 | … | 1 |
| 2108 | 74 Ophiuchi | …… | + 3 18 44·9 | … | 1 |
| 2111 | 36 Draconis | 18 12 59·46 | +64 20 39·9 | 5 | 3 |
| 2109 | η Serpentis | …… | − 2 56 3·0 | … | 2 |
| 2112 | 106 Herculis | 18 13 36·98 | +21 53 57·0 | 3 | 3 |
| 2113 | κ Lyræ | 18 14 19·75 | +35 59 49·2 | 3 | 2 |
| 2116 | 107 Herculis | 18 14 51·44 | +28 47 56·5 | 3 | 3 |
| 2117 | …… | …… | +23 12 35·4 | … | 3 |
| 2121 | 109 Herculis | 18 16 58·05 | +21 42 9·8 | 3 | 3 |
| 2124 | 59 Serpentis | 18 19 7·62 | + 0 6 28·8 | 3 | 3 |
| 2134 | …… | …… | +23 45 57·4 | … | 3 |
| 2148 | δ Ursæ Minoris | 18 23 17·84 | +86 35 34·7 | 61 | 49 |
| …… | …… S.P. | 6 23 17·85 | +86 35 33·0 | 42 | 18 |
| 2139 | 61 Serpentis | 18 23 47·57 | …… | 3 | … |
| 2143 | χ Draconis | 18 23 54·22 | +72 39 45·1 | 5 | 1 |
| 2146 | …… | 18 26 11·90 | +23 30 14·2 | 3 | 3 |
| 2147 | 1 Aquilæ | 18 26 36·59 | − 8 20 55·5 | 3 | 3 |
| 2156 | α Lyræ | 18 31 35·37 | …… | 48 | … |
| 2163 | φ Sagittarii | 18 35 47·08 | …… | 2 | … |
| 2165 | 4 Aquilæ | …… | + 1 54 19·0 | … | 3 |
| 2167 | 6 Aquilæ | …… | − 4 54 40·0 | … | 3 |
| 2168 | 110 Herculis | 18 38 51·82 | +20 23 59·3 | 3 | 3 |
| 2169 | ε Lyræ | 18 39 6·44 | +39 30 28·6 | 2 | 2 |
| 2170 | 5 Lyræ | 18 39 8·63 | +39 27 3·9 | 3 | 3 |
| 2171 | $\zeta^1$ Lyræ | 18 39 20·06 | +37 26 37·7 | 3 | 3 |

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|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2172 | 46 Draconis | 18 39 34·51 | +55 22 53·5 | 2 | 3 |
| 2177 | β Lyræ | 18 44 14·86 | +33 10 59·4 | 49 | 5 |
| 2180 | σ Sagittarii | 18 45 27·96 | … | 2 | … |
| 2184 | 62 Serpentis | … | + 6 25 23·4 | … | 2 |
| 2186 | 113 Herculis | 18 48 4·71 | +22 26 58·1 | 3 | 3 |
| 2188 | θ¹ Serpentis | 18 48 21·97 | + 4 0 12·5 | 3 | 3 |
| 2189 | θ² Serpentis | 18 48 23·44 | + 4 0 6·6 | 3 | 3 |
| 2190 | 9 Aquilæ | 18 48 36·05 | − 6 2 43·4 | 3 | 3 |
| 2192 | ο Draconis | 18 48 51·96 | +59 11 47·9 | 3 | 3 |
| 2191 | δ² Lyræ | 18 48 58·82 | +36 42 5·1 | 3 | 3 |
| 2193 | 64 Serpentis | … | + 2 20 0·7 | … | 3 |
| 2201 | 12 Aquilæ | 18 53 14·48 | − 5 57 19·7 | 3 | 3 |
| 2203 | 48 Draconis | 18 54 4·82 | +57 36 25·2 | 3 | 3 |
| 2204 | 14 Aquilæ | 18 54 35·27 | − 3 55 19·6 | 3 | 3 |
| 2209 | υ Draconis | 18 56 19·00 | … | 2 | … |
| 2207 | 15 Aquilæ | 18 56 37·18 | − 4 15 38·1 | 3 | 3 |
| 2213 | λ Aquilæ | 18 57 51·90 | − 5 6 48·8 | 3 | 3 |
| 2214 | ζ Aquilæ | 18 58 8·91 | … | 30 | … |
| 2219 | 18 Aquilæ | 18 59 32·50 | +10 49 59·5 | 3 | 3 |
| 2220 | π Sagittarii | 19 0 21·72 | … | 2 | … |
| 2232 | η Lyræ | 19 8 22·62 | +38 52 39·2 | 3 | 1 |
| 2231 | 1 Sagittæ | 19 8 29·06 | +20 57 37·6 | 3 | 2 |
| 2234 | 53 Draconis | 19 8 41·00 | +56 35 29·6 | 3 | 3 |
| 2233 | 22 Aquilæ | 19 8 41·93 | + 4 33 41·2 | 3 | 3 |
| 2235 | 1 Vulpeculæ | 19 9 25·48 | +21 6 57·5 | 3 | 3 |
| 2242 | θ Lyræ | 19 10 53·18 | … | 2 | … |
| 2243 | 54 Draconis | 19 11 5·87 | +57 26 3·7 | 3 | 3 |
| 2245 | 26 Aquilæ | 19 12 6·77 | − 5 42 18·5 | 3 | 3 |
| 2253 | δ Draconis | 19 12 30·17 | … | 5 | … |
| 2254 | κ Cygni | 19 13 26·96 | +53 4 45·7 | 3 | 1 |
| … | 59 Draconis | 19 14 54·08 | +76 17 37·4 | 5 | 3 |
| … | S.P. | … | +76 17 35·0 | … | 3 |
| 2259 | 3 Vulpeculæ | 19 16 22·76 | +25 57 48·1 | 3 | 3 |
| 2265 | 31 Aquilæ | 19 17 26·20 | +11 36 42·1 | 3 | 3 |
| 2266 | δ Aquilæ | 19 17 31·89 | + 2 48 18·6 | 13 | 5 |
| 2268 | ν Aquilæ | 19 18 26·16 | + 0 1 45·0 | 3 | 3 |
| 2272 | τ Draconis | 19 18 33·73 | +73 3 37·1 | 5 | 1 |
| 2271 | 3 Cygni | 19 18 53·64 | +24 37 55·2 | 3 | 3 |
| 2279 | 8 Vulpeculæ | 19 22 21·53 | +24 26 50·2 | 3 | 3 |
| 2281 | β¹ Cygni | 19 24 21·03 | … | 3 | … |
| 2283 | … | 19 25 10·48 | +20 35 53·4 | 3 | 3 |
| 2284 | ι Cygni | 19 25 43·10 | +51 23 44·2 | 3 | 3 |
| 2289 | μ Aquilæ | 19 26 22·24 | + 7 2 53·1 | 3 | 1 |
| 2288 | 37 Aquilæ | 19 26 24·64 | −10 53 58·4 | 3 | 3 |
| 2290 | 52 Sagittarii | 19 27 5·21 | … | 2 | … |
| 2292 | 9 Vulpeculæ | 19 27 38·60 | +19 25 59·2 | 3 | 3 |
| 2294 | κ Aquilæ | 19 28 23·29 | − 7 22 22·9 | 3 | 1 |
| 2295 | ι Aquilæ | 19 28 32·85 | − 1 37 51·9 | 3 | 3 |
| 2296 | 9 Cygni | 19 28 34·34 | +29 7 10·4 | 3 | 3 |
| 2297 | 42 Aquilæ | 19 29 24·28 | − 4 59 40·1 | 3 | 4 |

| No. of Astronom. Society's Catalogue. | Star. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2303 | θ Cygni | .............. | +49 51 28·4 | ... | 2 |
| 2304 | 45 Aquilæ | .............. | − 0 58 54·0 | ... | 3 |
| 2306 | σ Draconis | 19 32 39·36 | +69 23 31·6 | 5 | 3 |
| 2305 | α Sagittæ | 19 33 2·04 | +17 39 18·8 | 3 | 3 |
| 2307 | φ Cygni | 19 33 8·23 | +29 47 34·5 | 3 | 3 |
| 2309 | β Sagittæ | 19 33 57·10 | +17 6 52·8 | 3 | 2 |
| 2311 | χ Aquilæ | 19 35 7·95 | +11 27 34·8 | 3 | 3 |
| 2314 | 10 Vulpeculæ | 19 37 8·87 | +25 23 51·9 | 3 | 3 |
| 2315 | .............................. | 19 37 27·57 | +26 45 40·5 | 3 | 3 |
| 2316 | 15 Cygni | 19 38 34·78 | ................ | 3 | ... |
| 2317 | γ Aquilæ | 19 38 44·87 | ................ | 27 | ... |
| 2327 | ζ Sagittæ | 19 41 57·80 | +18 45 1·9 | 3 | 2 |
| 2328 | 57 Sagittarii | 19 43 0·74 | ................ | 2 | ... |
| 2329 | α Aquilæ | 19 43 4·45 | + 8 27 20·9 | 33 | 5 |
| 2330 | 54 Aquilæ | 19 43 27·44 | +10 1 31·3 | 3 | 3 |
| 2332 | 12 Vulpeculæ | 19 44 16·00 | +22 12 44·8 | 3 | 3 |
| 2333 | η Aquilæ | 19 44 25·41 | + 0 36 19·3 | 3 | 1 |
| 2334 | 56 Aquilæ | 19 45 33·68 | − 8 58 43·1 | 3 | 3 |
| 2336 | ξ Aquilæ | 19 46 35·45 | + 8 3 27·3 | 3 | 3 |
| 2337 | 58 Aquilæ | 19 46 39·11 | − 0 8 3·2 | 3 | 3 |
| 2338 | 13 Vulpeculæ | 19 46 44·81 | +23 40 18·2 | 3 | 3 |
| 2340 | β Aquilæ | 19 47 33·11 | ................ | 11 | ... |
| 2341 | φ Aquilæ | 19 48 45·30 | +11 0 33·7 | 3 | 1 |
| 2342 | 10 Sagittæ | 19 48 50·65 | +16 13 14·2 | 3 | 3 |
| 2353 | χ Sagittæ | .............. | +17 5 21·1 | ... | 3 |
| 2358 | .............................. | 19 55 3·10 | +24 21 57·1 | 3 | 3 |
| 2359 | 16 Vulpeculæ | 19 55 19·29 | +24 29 59·3 | 3 | 3 |
| 2360 | 62 Aquilæ | 19 56 14·68 | − 1 8 40·1 | 3 | 3 |
| 2362 | 14 Sagittæ | 19 56 16·27 | +15 35 31·8 | 3 | 3 |
| 2363 | τ Aquilæ | 19 56 25·23 | ................ | 3 | ... |
| 2365 | 15 Sagittæ | 19 57 0·33 | +16 38 46·8 | 3 | 3 |
| 2366 | η Sagittæ | 19 58 9·17 | ................ | 3 | ... |
| 2369 | 64 Aquilæ | 19 59 52·17 | − 1 7 40·0 | 3 | 3 |
| 2371 | ρ Draconis | 20 2 5·30 | ................ | 2 | ... |
| 2374 | 66 Draconis | 20 3 1·77 | ................ | 2 | ... |
| 2376 | 28 Cygni | 20 3 33·60 | ................ | 3 | ... |
| ...... | 69 Draconis | 20 3 56·96 | +76 2 16·7 | 5 | 3 |
| ...... | .............. S.P. | .............. | +76 2 14·9 | ... | 3 |
| 2377 | 18 Vulpeculæ | 20 3 57·96 | ................ | 3 | ... |
| 2380 | 20 Vulpeculæ | 20 5 23·22 | +26 0 39·6 | 3 | 3 |
| 2381 | ρ Aquilæ | 20 6 57·98 | ................ | 3 | ... |
| 2383 | 21 Vulpeculæ | 20 7 45·14 | +28 13 11·3 | 3 | 3 |
| 2387 | $o^2$ Cygni | 20 8 39·37 | +46 15 53·7 | 3 | 3 |
| 2385 | 22 Vulpeculæ | 20 8 40·86 | +23 1 47·8 | 3 | 3 |
| 2389 | 23 Vulpeculæ | 20 9 13·30 | +27 19 59·5 | 3 | 3 |
| 2388 | $\alpha^2$ Capricorni | 20 9 17·05 | −13 1 45·4 | 6 | 5 |
| 2390 | 18 Sagittæ | 20 9 23·31 | +21 7 4·7 | 3 | 3 |
| 2391 | 33 Cygni | 20 9 43·41 | ................ | 3 | ... |
| 2397 | $\beta^2$ Capricorni | 20 12 7·68 | −15 16 29·8 | 3 | 1 |
| 2399 | κ Cephei | 20 14 5·90 | ................ | 2 | ... |

| No. of Astronom. Society's Catalogue. | Star. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2402 | 39 Cygni | 20 17 33·14 | ...... | 3 | ... |
| 2404 | ϱ Capricorni | 20 19 50·50 | −18 19 50·4 | 3 | 3 |
| ...... | λ Ursæ Minoris | 20 19 59·49 | +88 50 8·2 | 5 | 5 |
| ...... | ...... S.P. | ...... | +88 50 7·6 | ... | 5 |
| 2407 | $o^1$ Capricorni | 20 20 48·73 | ...... | 6 | ... |
| 2408 | $o^2$ Capricorni | 20 20 50·03 | ...... | 6 | ... |
| 2416 | ι Delphini | 20 25 39·79 | ...... | 3 | ... |
| 2420 | $\omega^3$ Cygni | 20 26 26·29 | +48 41 22·9 | 3 | 3 |
| 2419 | η Delphini | 20 26 28·62 | +12 29 24·3 | 3 | 3 |
| 2422 | θ Cephei | 20 26 55·36 | ...... | 2 | ... |
| 2423 | ζ Delphini | 20 27 55·31 | +14 8 0·3 | 3 | 3 |
| 2425 | 70 Aquilæ | 20 28 29·80 | − 3 5 34·2 | 3 | 3 |
| 2428 | β Delphini | 20 30 8·35 | ...... | 3 | ... |
| 2427 | 71 Aquilæ | 20 30 10·57 | − 1 39 9·4 | 3 | 3 |
| 2432 | υ Capricorni | 20 31 2·95 | +18 41 24·9 | 2 | 1 |
| 2435 | ϰ Delphini | ...... | + 9 32 2·2 | ... | 1 |
| 2436 | 29 Vulpeculæ | 20 31 27·97 | +20 39 1·6 | 3 | 3 |
| 2439 | α Delphini | 20 32 17·93 | ...... | 3 | ... |
| 2440 | ...... | 20 32 29·45 | +29 47 3·7 | 3 | 3 |
| 2442 | 10 Delphini | 20 33 52·41 | +14 1 28·0 | 3 | 2 |
| 2444 | α Cygni | 20 36 2·80 | ...... | 33 | ... |
| 2443 | δ Delphini | 20 36 4·95 | +14 30 42·5 | 3 | 2 |
| 2447 | 30 Vulpeculæ | 20 38 2·37 | ...... | 3 | ... |
| 2450 | ι Aquarii | 20 39 7·15 | ...... | 1 | ... |
| 2452 | γ Delphini | 20 39 19·84 | ...... | 3 | ... |
| 2451 | 3 Aquarii | 20 39 23·90 | ...... | 3 | ... |
| 2456 | λ Delphini | 20 39 58·70 | ...... | 3 | ... |
| 2465 | η Cephei | 20 42 4·14 | ...... | 2 | ... |
| 2466 | 4 Aquarii | 20 43 2·93 | − 6 12 47·4 | 3 | 1 |
| 2469 | 5 Aquarii | 20 43 47·17 | − 6 5 43·9 | 3 | 3 |
| 2470 | μ Aquarii | 20 44 7·67 | − 9 34 18·0 | 4 | 4 |
| 2473 | 31 Vulpeculæ | 20 45 22·01 | +26 30 33·3 | 3 | 2 |
| 2477 | 57 Cygni | 20 47 39·78 | +43 47 29·2 | 3 | 3 |
| 2476 | ...... | 20 47 45·97 | + 3 56 0·0 | 3 | 3 |
| 2478 | 32 Vulpeculæ | 20 47 49·74 | +27 27 35·7 | 3 | 3 |
| 2479 | χ Delphini | 20 48 6·28 | +11 58 5·2 | 3 | 2 |
| 2480 | μ Delphini | 20 48 7·77 | +13 7 21·2 | 3 | 3 |
| 2489 | ν Cygni | 20 51 17·13 | ...... | 3 | ... |
| 2490 | 21 Capricorni | 20 51 57·78 | ...... | 3 | ... |
| 2493 | ...... | 20 52 3·55 | ...... | 3 | ... |
| 2491 | 11 Aquarii | 20 52 14·47 | ...... | 3 | ... |
| 2496 | 76 Draconis | 20 53 38·75 | ...... | 2 | ... |
| 2495 | λ Equulei | 20 54 25·18 | + 6 33 47·0 | 3 | 2 |
| 2499 | ...... | 20 54 32·44 | ...... | 6 | ... |
| 2498 | 12 Aquarii | 20 55 42·98 | − 6 26 39·9 | 3 | 2 |
| 2500 | ζ Equulei | 20 56 42·57 | ...... | 3 | ... |
| 2501 | θ Capricorni | 20 57 3·49 | −17 51 20·5 | 1 | 1 |
| 2505 | ξ Cygni | 20 59 11·21 | ...... | 3 | ... |
| ...... | $61^1$ Cygni | 20 59 49·07 | +37 58 32·9 | 6 | 5 |
| ...... | $61^2$ Cygni | 20 59 50·51 | +37 58 30·9 | 6 | 5 |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2512 | ζ Cygni | 21 6 12·90 | ...... | 22 | ... |
| 2516 | 29 Capricorni | 21 6 59·71 | −15 49 25·2 | 3 | 3 |
| ...... | 77 Draconis | 21 8 32·25 | +77 29 2·3 | 5 | 3 |
| ...... | ...... S.P. | ...... | +77 29 1·3 | ... | 3 |
| 2521 | 31 Capricorni | 21 9 24·84 | ...... | 3 | ... |
| 2528 | ι Capricorni | 21 13 26·53 | −17 30 10·6 | 2 | 2 |
| 2536 | α Cephei | ...... | +61 55 4·1 | ... | 5 |
| 2534 | 1 Pegasi | 21 14 46·88 | ...... | 3 | ... |
| 2535 | β Equulei | 21 15 3·01 | ...... | 3 | ... |
| 2539 | 6 Cephei | 21 16 5·09 | ...... | 7 | ... |
| 2541 | ...... | 21 16 51·89 | ...... | 3 | ... |
| 2542 | 21 Aquarii | 21 17 2·47 | − 4 13 49·4 | 3 | 2 |
| 2551 | β Aquarii | 21 23 14·20 | − 6 15 44·5 | 7 | 3 |
| 2559 | β Cephei | ...... | +69 52 6·4 | ... | 5 |
| 2571 | 9 Cephei | 21 33 40·86 | ...... | 2 | ... |
| 2572 | 26 Aquarii | 21 34 6·66 | ...... | 3 | ... |
| 2574 | 7 Pegasi | 21 34 21·24 | ...... | 3 | ... |
| 2575 | 44 Capricorni | 21 34 26·74 | ...... | 3 | ... |
| 2578 | ε Pegasi | 21 36 25·57 | ...... | 16 | ... |
| 2581 | 9 Pegasi | 21 37 1·89 | ...... | 3 | ... |
| 2582 | μ Cygni | 21 37 4·94 | ...... | 3 | ... |
| 2583 | κ Pegasi | 21 37 29·58 | ...... | 3 | ... |
| 2585 | λ Capricorni | 21 38 1·46 | −12 5 28·1 | 1 | 1 |
| 2588 | 12 Pegasi | 21 38 48·39 | +22 13 23·5 | 3 | 1 |
| 2589 | 11 Pegasi | 21 39 13·24 | + 1 57 31·7 | 3 | 1 |
| 2590 | τ Cephei | 21 39 35·18 | ...... | 4 | ... |
| 2594 | σ Cephei | 21 40 53·07 | ...... | 1 | ... |
| 2595 | 78 Draconis | 21 41 6·78 | ...... | 2 | ... |
| 2596 | 13 Pegasi | 21 42 37·73 | ...... | 3 | ... |
| 2597 | 14 Pegasi | 21 42 51·55 | ...... | 3 | ... |
| 2601 | 15 Pegasi | 21 45 26·96 | ...... | 3 | ... |
| 2603 | 16 Pegasi | 21 45 52·58 | ...... | 3 | ... |
| 2614 | 30 Aquarii | 21 54 57·49 | ...... | 1 | ... |
| 2615 | ο Aquarii | 21 55 8·44 | ...... | 3 | ... |
| 2617 | 21 Pegasi | 21 55 33·93 | ...... | 3 | ... |
| 2618 | 32 Aquarii | 21 56 39·87 | − 1 40 2·1 | 3 | 1 |
| 2619 | α Aquarii | 21 57 40·02 | − 1 5 3·7 | 11 | 5 |
| 2620 | ν Pegasi | 21 57 42·72 | ...... | 3 | ... |
| 2622 | ι Aquarii | 21 57 53·90 | −14 37 58·6 | 1 | 1 |
| ...... | 23 Pegasi | 21 58 25·52 | ...... | 3 | ... |
| ...... | ξ Cephei | 21 59 13·31 | +63 51 33·6 | 5 | 2 |
| ...... | ι Pegasi | 21 59 39·87 | ...... | 3 | ... |
| ...... | Groombridge 3707 | 22 3 34·01 | +82 6 27·0 | 5 | 3 |
| ...... | ...... S.P. | ...... | +82 6 25·4 | ... | 3 |
| 2646 | ζ Cephei | 22 5 22·98 | ...... | 3 | ... |
| 2650 | ...... | 22 7 6·25 | ...... | 3 | ... |
| 2655 | θ Aquarii | 22 8 29·64 | − 8 34 2·4 | 2 | 2 |
| 2658 | 1 Lacertæ | 22 9 5·46 | ...... | 3 | ... |
| 2673 | ...... | 22 16 26·64 | ...... | 3 | ... |
| 2674 | π Aquarii | 22 17 12·41 | ...... | 3 | ... |

| No. of Astronom. Society's Catalogue. | STAR. | Mean Right Ascension. | Mean Declination. | No. of Observations. | |
|---|---|---|---|---|---|
| | | | | Right Ascension. | Declination. |
| | | h. m. s. | ° ′ ″ | | |
| 2676 | 3 Lacertæ | 22 17 21·60 | …… | 3 | … |
| 2679 | 4 Lacertæ | 22 18 7·42 | +48 40 37·5 | 3 | 2 |
| 2680 | 34 Pegasi | 22 18 34·91 | …… | 3 | … |
| 2682 | 35 Pegasi | 22 19 51·60 | …… | 3 | … |
| 2684 | ζ Aquarii | 22 20 42·00 | …… | 1 | … |
| 2691 | δ Cephei | 22 23 18·87 | …… | 3 | … |
| 2698 | η Aquarii | 22 27 14·06 | …… | 1 | … |
| 2707 | 31 Cephei | 22 31 51·76 | …… | 2 | … |
| 2709 | 30 Cephei | 22 33 3·48 | …… | 3 | … |
| 2710 | ζ Pegasi | 22 33 35·06 | …… | 15 | … |
| 2729 | ι Cephei | 22 44 4·34 | …… | 2 | … |
| 2730 | λ Aquarii | 22 44 22·13 | − 8 25 5·9 | 4 | 2 |
| 2734 | …… | 22 45 13·61 | …… | 4 | … |
| 2737 | 77 Aquarii | 22 46 23·51 | …… | 3 | … |
| 2746 | 3 Piscium | 22 52 31·76 | − 0 39 37·8 | 1 | 1 |
| 2749 | …… | 22 53 40·75 | …… | 3 | … |
| …… | Piazzi XXII. 295 | 22 55 25·50 | +83 30 2·9 | 5 | 3 |
| …… | …… S.P. | …… | +83 30 0·2 | … | 3 |
| 2752 | β Piscium | 22 55 50·32 | + 2 58 16·1 | 2 | 1 |
| 2755 | α Pegasi | 22 56 53·73 | +14 21 24·7 | 21 | 5 |
| 2754 | 83 Aquarii | 22 56 55·17 | …… | 3 | … |
| 2757 | …… | 22 57 33·14 | …… | 3 | … |
| 2768 | π Cephei | 23 2 53·40 | …… | 2 | … |
| 2777 | γ Piscium | 23 8 58·42 | …… | 1 | … |
| 2782 | 94 Aquarii | 23 10 47·67 | …… | 3 | … |
| 2792 | …… | 23 15 25·59 | …… | 3 | … |
| 2796 | 4 Cassiopeæ | 23 17 50·78 | …… | 2 | … |
| 2798 | $\chi^1$ Piscium | …… | + 0 23 31·0 | … | 1 |
| 2799 | $\chi^2$ Piscium | 23 19 9·22 | …… | 3 | … |
| 2800 | 69 Pegasi | …… | +24 18 1·0 | … | 1 |
| 2802 | …… | 23 20 37·80 | …… | 2 | … |
| 2805 | …… | 23 21 21·92 | …… | 3 | … |
| 2809 | …… | 23 24 0·86 | …… | 3 | … |
| 2823 | ι Piscium | 23 31 49·56 | + 4 46 16·5 | 17 | 1 |
| 2824 | χ Andromedæ | …… | +43 27 34·4 | … | 2 |
| 2826 | γ Cephei | 23 32 54·66 | +76 45 4·2 | 5 | 5 |
| …… | …… S.P. | …… | +76 45 1·3 | … | 5 |
| 2825 | …… | 23 32 58·10 | …… | 3 | … |
| 2827 | 103 Aquarii | …… | −18 53 57·9 | … | 3 |
| 2828 | 104 Aquarii | …… | −18 41 30·6 | … | 3 |
| 2830 | $\omega^2$ Aquarii | …… | −15 25 4·7 | … | 3 |
| 2831 | 76 Pegasi | 23 34 42·97 | +15 27 34·6 | 2 | 3 |
| 2837 | ψ Andromedæ | 23 38 13·10 | …… | 2 | … |
| 2840 | τ Cassiopeæ | 23 39 21·81 | …… | 1 | … |
| 2843 | …… | 23 40 23·75 | …… | 2 | … |
| 2842 | …… | 23 40 25·24 | …… | 3 | … |
| 2853 | …… | 23 44 22·59 | −15 7 46·8 | 3 | 2 |
| 2854 | 23 Piscium | 23 44 22·71 | +20 47 34·7 | 3 | 3 |
| 2855 | φ Pegasi | 23 44 27·53 | +18 14 35·5 | 3 | 3 |
| 2865 | ω Piscium | 23 51 12·05 | …… | 2 | … |
| 2868 | …… | 23 53 35·58 | …… | 2 | … |
| 2875 | 3 Ceti | 23 56 24·61 | …… | 3 | … |
| 2879 | 4 Ceti | 23 59 38·53 | …… | 3 | … |

ROYAL OBSERVATORY, EDINBURGH.

# REDUCED OBSERVATIONS

OF THE

# SUN, MOON, AND PLANETS.

1842.

## OBSERVED SIDEREAL TIME OF THE SUN'S DIAMETER PASSING THE MERIDIAN.

| DATE. | Observed Time. | Difference from Nautical Almanac. |
|---|---|---|
| 1842. | m. s. | s. |
| January 3 | 2 21·96 | +0·18 |
| 7 | 21·52 | +0·22 |
| 8 | 21·36 | +0·20 |
| 20 | 19·10 | +0·06 |
| 25 | 18·04 | +0·06 |
| 27 | 17·48 | −0·06 |
| 28 | 17·22 | −0·10 |
| 29 | 16·99 | −0·09 |
| February 2 | 15·88 | −0·28 |
| 3 | 15·90 | −0·02 |
| 4 | 15·54 | −0·16 |
| 5 | 15·30 | −0·16 |
| 10 | 14·34 | +0·02 |
| 11 | 14·12 | +0·02 |
| 16 | 12·92 | −0·14 |
| 19 | 12·43 | −0·03 |
| 21 | 12·00 | −0·08 |
| 23 | 11·68 | −0·04 |
| 24 | 11·32 | −0·22 |
| March 1 | 10·60 | −0·12 |
| 4 | 10·40 | +0·10 |
| 7 | 10·04 | +0·12 |
| 8 | 9·82 | +0·02 |
| 9 | 9·56 | +0·14 |
| 12 | 9·20 | −0·22 |
| 19 | 9·12 | +0·16 |
| 24 | 8·76 | −0·04 |
| 26 | 8·76 | −0·02 |
| 31 | 8·80 | −0·02 |
| April 5 | 8·95 | −0·07 |
| 6 | 9·04 | −0·04 |
| 8 | 9·04 | −0·16 |
| 9 | 9·16 | −0·12 |
| 11 | 9·50 | +0·06 |
| 12 | 9·36 | −0·16 |
| 13 | 9·48 | −0·14 |
| 16 | 9·76 | −0·16 |
| 18 | 10·06 | −0·08 |
| 19 | 10·22 | −0·04 |
| 20 | 10·32 | −0·06 |
| 21 | 10·42 | −0·08 |
| 22 | 10·48 | −0·14 |
| 23 | 10·80 | +0·04 |
| 25 | 10·96 | −0·08 |
| 26 | 11·22 | +0·04 |
| 27 | 11·32 | 0·00 |
| 28 | 11·46 | 0·00 |
| May 2 | 11·98 | −0·10 |
| 17 | 14·54 | +0·02 |
| 21 | 15·05 | −0·09 |
| 28 | 16·03 | −0·11 |
| 30 | 16·28 | −0·10 |
| 31 | 16·30 | −0·20 |
| June 2 | 16·64 | −0·10 |
| 6 | 17·10 | −0·02 |
| 7 | 17·23 | +0·03 |
| 8 | 17·16 | −0·12 |
| 9 | 17·28 | −0·08 |
| 1842. | m. s. | s. |
| June 10 | 2 17·44 | +0·02 |
| 12 | 17·46 | −0·08 |
| 13 | 17·64 | +0·04 |
| 14 | 17·66 | +0·02 |
| 17 | 17·64 | −0·10 |
| 18 | 17·78 | +0·02 |
| 22 | 17·82 | +0·04 |
| 24 | 17·68 | −0·06 |
| 27 | 17·66 | +0·02 |
| July 5 | 16·98 | −0·10 |
| 14 | 15·95 | −0·11 |
| 15 | 15·88 | −0·04 |
| 21 | 15·00 | −0·04 |
| 22 | 14·86 | −0·02 |
| 23 | 14·80 | +0·08 |
| 26 | 14·28 | +0·04 |
| 29 | 13·52 | −0·20 |
| August 1 | 13·00 | −0·20 |
| 2 | 12·88 | −0·14 |
| 6 | 12·30 | −0·02 |
| 9 | 11·70 | −0·12 |
| 16 | 10·66 | −0·04 |
| 17 | 10·34 | −0·22 |
| 18 | 10·32 | −0·10 |
| 22 | 9·78 | −0·08 |
| 27 | 9·02 | −0·22 |
| September 6 | 8·22 | −0·14 |
| 10 | 7·98 | −0·18 |
| 12 | 7·88 | −0·20 |
| 15 | 7·98 | −0·06 |
| 16 | 7·88 | −0·16 |
| 20 | 8·02 | −0·04 |
| 30 | 8·40 | −0·12 |
| October 4 | 8·78 | −0·10 |
| 6 | 9·04 | −0·06 |
| 7 | 9·07 | −0·15 |
| 8 | 9·22 | −0·12 |
| 11 | 9·70 | −0·06 |
| 12 | 9·98 | +0·08 |
| 13 | 10·12 | +0·08 |
| 18 | 10·74 | −0·14 |
| 22 | 11·56 | −0·06 |
| 24 | 12·02 | 0·00 |
| 29 | 12·92 | −0·14 |
| November 8 | 15·30 | −0·06 |
| 9 | 15·72 | +0·12 |
| 14 | 16·88 | +0·08 |
| 21 | 18·28 | −0·12 |
| 23 | 18·84 | 0·00 |
| 29 | 19·94 | −0·10 |
| December 3 | 20·92 | +0·20 |
| 17 | 22·22 | −0·04 |
| 23 | 22·42 | +0·02 |
| 24 | 22·36 | −0·02 |
| 27 | 22·26 | −0·04 |
| 28 | 22·30 | +0·06 |
| 29 | 22·08 | −0·10 |
| 31 | 22·12 | +0·06 |

## OBSERVED RIGHT ASCENSIONS AND DECLINATIONS OF THE SUN.

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | ″ | ° ′ ″ | ″ |
| Jan. 3 | I. & II. | 18 55 37·48 | − 0·04 | N. | +8·5 | − 22 50 37·2 | + 4·7 |
| 7 | I. & II. | 19 13 11·84 | + 0·21 | S. | 8·5 | − 22 23 36·4 | + 4·1 |
| 8 | I. & II. | 19 17 34·19 | + 0·17 | N. | 8·5 | − 22 15 44·8 | + 3·6 |
| 15 | II. | 19 47 54·83 | + 0·04 | ...... | ...... | ................. | ......... |
| 17 | II. | 19 56 29·25 | + 0·15 | ...... | ...... | ................. | ......... |
| 20 | I. & II. | 20 9 15·23 | + 0·19 | S. | 8·4 | − 20 8 31·0 | + 2·3 |
| 21 | II. | 20 13 29·12 | + 0·30 | N. | 8·4 | − 19 55 20·2 | + 2·4 |
| 25 | I. & II. | 20 30 16·29 | + 0·34 | S. | 8·4 | − 18 58 59·5 | + 2·0 |
| 27 | I. & II. | 20 38 34·81 | + 0·13 | N. | 8·3 | − 18 28 42·9 | + 2·0 |
| 28 | I. & II. | 20 42 43·20 | + 0·37 | S. | 8·3 | − 18 13 3·8 | + 2·6 |
| 29 | I. & II. | 20 46 50·36 | + 0·20 | N. | 8·3 | − 17 57 6·8 | + 1·5 |
| Feb. 1 | I. | 20 59 7·78 | + 0·48 | ...... | ...... | ................. | ......... |
| 2 | I. & II. | 21 3 11·68 | + 0·30 | S. | 8·2 | − 16 50 4·9 | + 1·9 |
| 3 | I. & II. | 21 7 14·88 | + 0·22 | N. | 8·2 | − 16 32 32·3 | + 3·9 |
| 4 | I. & II. | 21 11 17·31 | + 0·17 | S. | 8·2 | − 16 14 46·8 | + 1·3 |
| 5 | I. & II. | 21 15 18·95 | + 0·13 | N. | 8·2 | − 15 56 41·7 | + 1·5 |
| 7 | ......... | ............... | ......... | S. | 8·2 | − 15 19 39·3 | + 5·1 |
| 8 | ......... | ............... | ......... | N. | 8·2 | − 15 0 50·4 | + 1·0 |
| 10 | I. & II. | 21 35 15·31 | + 0·08 | S. | 8·1 | − 14 22 17·7 | + 2·5 |
| 11 | I. & II. | 21 39 12·19 | + 0·03 | N. | 8·1 | − 14 2 40·6 | − 2·6 |
| 15 | II. | 21 54 52·21 | + 0·12 | S. | 8·1 | − 12 41 57·6 | + 2·2 |
| 16 | I. & II. | 21 58 45·35 | + 0·17 | N. | 8·0 | − 12 21 15·2 | + 2·5 |
| 18 | ......... | ............... | ......... | S. | 8·0 | − 11 39 14·6 | + 4·3 |
| 19 | I. & II. | 22 10 20·16 | + 0·08 | N. | 8·0 | − 11 18 0·0 | + 3·1 |
| 21 | I. & II. | 22 18 0·08 | + 0·22 | S. | 8·0 | − 10 34 57·3 | + 3·1 |
| 23 | I. & II. | 22 25 37·16 | + 0·17 | N. | 7·9 | − 9 51 19·1 | − 0·1 |
| 24 | I. & II. | 22 29 24·73 | + 0·12 | S. | 7·9 | − 9 29 13·7 | + 1·1 |
| 28 | ......... | ............... | ......... | N. | 7·7 | − 7 59 36·6 | + 0·1 |
| March 1 | I. & II. | 22 48 14·10 | + 0·01 | S. | 7·8 | − 7 36 52·8 | + 0·9 |
| 4 | I. & II. | 22 59 25·72 | + 0·11 | N. | 7·6 | − 6 28 5·7 | + 0·7 |
| 7 | I. & II. | 23 10 33·14 | − 0·05 | S. | 7·6 | − 5 18 26·4 | + 3·1 |
| 8 | I. & II. | 23 14 15·01 | + 0·09 | N. | 7·5 | − 4 55 7·2 | + 1·0 |
| 9 | I. & II. | 23 17 56·53 | + 0·26 | S. | 7·5 | − 4 31 41·2 | + 1·8 |
| 10 | ......... | ............... | ......... | N. | 7·4 | − 4 8 12·7 | + 1·5 |
| 12 | I. & II. | 23 28 58·53 | + 0·21 | S. | 7·4 | − 3 21 5·2 | + 2·7 |
| 17 | I. | 23 47 16·30 | + 0·36 | S. | 7·2 | − 1 22 48·1 | + 1·4 |
| 18 | I. | 23 50 54·96 | + 0·20 | N. | 7·2 | − 0 59 5·1 | + 2·3 |
| 19 | I. & II. | 23 54 33·59 | + 0·21 | S. | 7·2 | − 0 35 23·1 | + 2·2 |
| 23 | ......... | ............... | ......... | N. | 7·0 | + 0 59 18·0 | + 2·3 |
| 24 | I. & II. | 0 12 44·58 | + 0·27 | S. | 7·0 | + 1 22 54·7 | + 2·4 |
| 26 | I. & II. | 0 19 59·79 | − 0·30 | N. | 6·8 | + 2 10 1·6 | + 2·7 |
| 28 | ......... | ............... | ......... | S. | 6·8 | + 2 56 59·4 | + 4·7 |
| 31 | I. & II. | 0 38 9·86 | + 0·14 | N. | 6·7 | + 4 6 53·6 | + 1·7 |
| April 1 | ......... | ............... | ......... | S. | 6·7 | + 4 30 3·9 | + 1·3 |
| 4 | I. | 0 52 43·34 | + 0·27 | N. | 6·5 | + 5 39 5·5 | + 0·5 |
| 5 | I. & II. | 0 56 22·10 | + 0·29 | S. | 6·5 | + 6 1 56·9 | + 2·3 |
| 6 | I. & II. | 1 0 0·93 | + 0·16 | N. | 6·4 | + 6 24 38·2 | − 0·1 |
| 8 | I. & II. | 1 7 19·58 | + 0·28 | S. | 6·4 | + 7 9 45·5 | 0·0 |
| 9 | I. & II. | 1 10 59·25 | + 0·33 | N. | 6·3 | + 7 32 9·3 | + 1·0 |
| 11 | I. & II. | 1 18 19·02 | + 0·05 | S. | 6·3 | + 8 16 31·6 | + 0·7 |
| 12 | I. & II. | 1 21 59·57 | + 0·16 | N. | 6·2 | + 8 38 29·6 | − 0·3 |

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ' " | " |
| April 13 | I. & II. | 1 25 40·36 | + 0·22 | S. | +6·2 | + 9 0 20·4 | + 0·2 |
| 14 | ......... | ............... | ......... | N. | 6·2 | + 9 22 1·9 | + 0·5 |
| 16 | I. & II. | 1 36 44·40 | + 0·14 | S. | 6·1 | + 10 4 57·9 | + 2·6 |
| 18 | I. & II. | 1 44 9·02 | + 0·28 | N. | 6·0 | + 10 47 10·2 | + 1·3 |
| 19 | I. & II. | 1 47 51·84 | + 0·31 | S. | 6·0 | + 11 8 1·6 | + 1·6 |
| 20 | I. & II. | 1 51 34·98 | + 0·25 | N. | 5·9 | + 11 28 42·2 | + 2·4 |
| 21 | I. & II. | 1 55 18·58 | + 0·26 | S. | 5·9 | + 11 49 9·5 | + 1·2 |
| 22 | I. & II. | 1 59 2·60 | + 0·27 | N. | 5·8 | + 12 9 31·5 | + 6·3 |
| 23 | I. & II. | 2 2 46·89 | + 0·10 | S. | 5·8 | + 12 29 34·3 | + 4·1 |
| 25 | I. & II. | 2 10 17·26 | + 0·19 | N. | 5·7 | + 13 9 5·1 | + 2·1 |
| 26 | I. & II. | 2 14 2·99 | + 0·05 | S. | 5·7 | + 13 28 30·4 | + 0·2 |
| 27 | I. & II. | 2 17 49·49 | + 0·19 | N. | 5·6 | + 13 47 45·0 | + 0·7 |
| 28 | I. & II. | 2 21 36·50 | + 0·32 | S. | 5·6 | + 14 6 45·4 | + 0·5 |
| 29 | II. | 2 25 23·77 | + 0·19 | N. | 5·6 | + 14 25 33·8 | + 2·2 |
| 30 | ......... | ............... | ......... | S. | 5·6 | + 14 44 8·8 | + 4·5 |
| May 2 | I. & II. | 2 36 49·43 | + 0·38 | N. | 5·4 | + 15 20 27·7 | + 1·7 |
| 3 | ......... | ............... | ......... | S. | 5·5 | + 15 38 16·2 | + 1·8 |
| 4 | II. | 2 44 29·15 | + 0·30 | N. | 5·4 | + 15 55 47·9 | + 0·4 |
| 6 | ......... | ............... | ......... | S. | 5·4 | + 16 30 8·8 | + 2·8 |
| 12 | I. | 3 15 31·18 | + 0·02 | ...... | ...... | ................. | ......... |
| 13 | ......... | ............... | ......... | N. | 5·1 | + 18 21 19·5 | + 1·0 |
| 16 | ......... | ............... | ......... | N. | 5·0 | + 19 4 26·3 | + 0·2 |
| 17 | I. & II. | 3 35 13·85 | + 0·21 | S. | 5·0 | + 19 18 12·3 | + 2·1 |
| 18 | ......... | ............... | ......... | N. | 4·9 | + 19 31 34·2 | − 0·5 |
| 20 | ......... | ............... | ......... | S. | 4·9 | + 19 57 25·2 | + 1·2 |
| 21 | I. & II. | 3 51 9·98 | + 0·50 | N. | 4·8 | + 20 9 47·7 | − 0·4 |
| 26 | ......... | ............... | ......... | S. | 4·8 | + 21 6 36·7 | + 1·6 |
| 27 | I. | 4 15 19·14 | + 0·21 | N. | 4·7 | + 21 16 53·6 | + 1·4 |
| 28 | I. & II. | 4 19 22·52 | + 0·25 | S. | 4·8 | + 21 26 49·8 | + 2·4 |
| 30 | I. & II. | 4 27 30·56 | + 0·19 | ...... | ...... | ................. | ......... |
| 31 | I. & II. | 4 31 35·35 | + 0·23 | ...... | ...... | ................. | ......... |
| June 2 | I. & II. | 4 39 46·11 | + 0·19 | ...... | ...... | ................. | ......... |
| 3 | I. | 4 43 52·16 | + 0·19 | ...... | ..... | ................. | ......... |
| 6 | I. & II. | 4 56 12·27 | − 0·07 | N. | 4·6 | + 22 39 3·4 | + 1·4 |
| 7 | I. & II. | 5 0 19·96 | + 0·14 | S. | 4·6 | + 22 45 9·3 | + 2·5 |
| 8 | I. & II. | 5 4 27·81 | + 0·22 | N. | 4·5 | + 22 50 47·3 | − 0·3 |
| 9 | I. & II. | 5 8 35·90 | + 0·25 | N. | 4·5 | + 22 56 7·9 | + 3·5 |
| 10 | I. & II. | 5 12 44·15 | + 0·18 | S. | 4·6 | + 23 0 58·5 | + 1·6 |
| 11 | II. | 5 16 52·74 | + 0·23 | N. | 4·5 | + 23 5 26·4 | + 1·2 |
| 12 | I. & II. | 5 21 1·41 | + 0·15 | ...... | ...... | ................. | ......... |
| 13 | I. & II. | 5 25 10·36 | + 0·18 | S. | 4·5 | + 23 13 8·5 | + 0·2 |
| 14 | I. & II. | 5 29 19·45 | + 0·20 | N. | 4·4 | + 23 16 24·2 | + 1·0 |
| 15 | II. | 5 33 28·35 | − 0·10 | S. | 4·4 | + 23 19 14·4 | + 0·9 |
| 16 | ......... | ............... | ......... | N. | 4·4 | + 23 21 39·9 | + 0·8 |
| 17 | I. & II. | 5 41 47·03 | − 0·11 | S. | 4·5 | + 23 23 41·6 | + 1·6 |
| 18 | I. & II. | 5 45 56·66 | + 0·08 | N. | 4·4 | + 23 25 16·2 | + 0·1 |
| 22 | I. & II. | 6 2 34·79 | + 0·25 | S. | 4·5 | + 23 27 34·2 | + 0·9 |
| 24 | I. & II. | 6 10 53·55 | + 0·21 | N. | 4·4 | + 23 26 14·3 | + 1·1 |
| 27 | I. & II. | 6 23 21·14 | + 0·27 | S. | 4·5 | + 23 21 8·3 | + 0·5 |
| July 1 | II. | 6 39 55·48 | − 0·05 | N. | 4·5 | + 23 8 35·2 | − 0·7 |
| 2 | ......... | ............... | ......... | S. | 4·6 | + 23 4 28·3 | + 1·4 |
| 5 | I. & II. | 6 56 26·58 | + 0·03 | ...... | ......... | ................. | ......... |
| 6 | II. | 7 0 33·69 | + 0·12 | ...... | ......... | ................. | ......... |
| 13 | ......... | ..... ......... | ......... | N. | 4·6 | + 21 52 37·5 | − 0·5 |
| 14 | I. & II. | 7 33 15·68 | + 0·21 | S. | 4·7 | + 21 43 48·2 | + 0·3 |
| 15 | I. & II. | 7 37 18·69 | + 0·07 | N. | 4·7 | + 21 34 35·6 | 0·0 |
| 16 | II. | 7 41 21·16 | − 0·11 | S. | 4·8 | + 21 25 0·2 | 1·2 |

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | ″ | ° ′ ″ | ″ |
| July 21 | I. & II. | 8 1 26·54 | +0·20 | N. | +4·8 | + 20 31 45·7 | − 2·1 |
| 22 | I. & II. | 8 5 25·71 | +0·03 | S. | 4·9 | + 20 20 3·9 | − 2·2 |
| 23 | I. & II. | 8 9 24·61 | +0·17 | N. | 4·8 | + 20 8 3·3 | − 0·9 |
| 25 | ……… | …………… | ……… | S. | 4·9 | + 19 43 1·3 | + 1·7 |
| 26 | I. & II. | 8 21 17·31 | 0·00 | N. | 4·9 | + 19 29 57·3 | − 0·3 |
| 27 | ……… | …………… | ……… | S. | 5·0 | + 19 16 37·4 | + 1·2 |
| 29 | I. & II. | 8 33 5·23 | +0·28 | N. | 5·0 | + 18 48 55·5 | − 0·4 |
| Aug. 1 | I. & II. | 8 44 47·53 | +0·18 | …… | …… | ……………… | ……… |
| 2 | I. & II. | 8 48 40·38 | +0·07 | S. | 5·2 | + 17 49 55·0 | + 1·9 |
| 5 | II. | 9 0 15·41 | −0·23 | …… | …… | ……………… | ……… |
| 6 | I. & II. | 9 4 6·25 | +0·03 | N. | 5·3 | + 16 46 9·9 | − 0·1 |
| 9 | I. & II. | 9 15 34·63 | +0·02 | S. | 5·4 | + 15 55 30·8 | + 0·1 |
| 10 | ……… | …………… | ……… | N. | 5·4 | + 15 38 5·9 | − 0·6 |
| 16 | I. & II. | 9 42 0·22 | +0·45 | S. | 5·6 | + 13 48 40·7 | + 2·1 |
| 17 | I. & II. | 9 45 43·88 | +0·14 | N. | 5·6 | + 13 29 37·1 | + 0·7 |
| 18 | I. & II. | 9 49 27·79 | +0·06 | S. | 5·7 | + 13 10 22·4 | + 1·0 |
| 22 | I. & II. | 10 4 17·58 | −0·10 | N. | 5·8 | + 11 51 19·8 | + 0·5 |
| 25 | ……… | …………… | ……… | S. | 5·9 | + 10 50 5·1 | + 2·4 |
| 26 | ……… | …………… | ……… | N. | 6·0 | + 10 29 17·2 | + 1·2 |
| 27 | I. & II. | 10 22 40·29 | +0·13 | S. | 6·1 | + 10 8 19·9 | + 0·8 |
| 29 | ……… | …………… | ……… | N. | 6·1 | + 9 25 56·3 | 0·0 |
| 31 | II. | 10 37 15·60 | +0·10 | S. | 6·2 | + 8 42 56·4 | − 0·3 |
| Sept. 6 | I. & II. | 10 58 59·89 | +0·16 | N. | 6·4 | + 6 30 46·1 | + 0·7 |
| 7 | ……… | …………… | ……… | S. | 6·5 | + 6 8 19·5 | + 0·4 |
| 10 | I. & II. | 11 13 25·03 | +0·31 | N. | 6·5 | + 5 0 23·4 | − 1·8 |
| 12 | I. & II. | 11 20 36·39 | +0·17 | …… | …… | ……………… | ……… |
| 13 | II. | 11 24 12·03 | +0·24 | …… | …… | ……………… | ……… |
| 15 | I. & II. | 11 31 22·74 | +0·09 | …… | …… | ……………… | ……… |
| 16 | I. & II. | 11 34 58·14 | +0·15 | S. | 6·8 | + 2 42 32·2 | + 1·0 |
| 20 | I. & II. | 11 49 19·55 | +0·25 | N. | 6·9 | + 1 9 28·5 | − 0·6 |
| 27 | ……… | …………… | ……… | S. | 7·2 | − 1 34 16·7 | + 1·5 |
| 29 | I. | 12 21 43·63 | +0·41 | N. | 7·2 | − 2 21 7·0 | 0·0 |
| 30 | I. & II. | 12 25 20·36 | +0·11 | S. | 7·2 | − 2 44 29·5 | + 0·3 |
| Oct. 3 | ……… | …………… | ……… | N. | 7·3 | − 3 54 26·6 | + 0·4 |
| 4 | I. & II. | 12 39 51·52 | +0·18 | S. | 7·4 | − 4 17 42·0 | − 0·8 |
| 6 | I. & II. | 12 47 9·21 | +0·28 | N. | 7·4 | − 5 4 1·3 | − 1·5 |
| 7 | I. & II. | 12 50 48·50 | +0·22 | S. | 7·5 | − 5 27 4·1 | − 0·6 |
| 8 | I. & II. | 12 54 28·23 | +0·20 | N. | 7·5 | − 5 50 4·5 | − 1·6 |
| 10 | ……… | …………… | ……… | S. | 7·6 | − 6 35 49·6 | − 2·2 |
| 11 | I. & II. | 13 5 29·92 | +0·06 | N. | 7·6 | − 6 58 33·0 | − 1·2 |
| 12 | I. & II. | 13 9 11·59 | +0·22 | S. | 7·7 | − 7 21 9·5 | + 0·9 |
| 13 | I. & II. | 13 12 53·50 | +0·13 | N. | 7·7 | − 7 43 42·2 | + 0·8 |
| 15 | I. | 13 20 19·06 | +0·16 | S. | 7·7 | − 8 28 26·8 | + 1·3 |
| 18 | I. & II. | 13 31 31·51 | +0·14 | N. | 7·8 | − 9 34 41·5 | − 0·8 |
| 19 | ……… | …………… | ……… | S. | 7·8 | − 9 56 26·3 | + 2·4 |
| 20 | II. | 13 39 2·80 | +0·12 | N. | 7·8 | − 10 18 8·8 | − 0·6 |
| 21 | ……… | …………… | ……… | S. | 7·9 | − 10 39 36·4 | + 2·1 |
| 22 | I. & II. | 13 46 36·79 | +0·22 | N. | 7·9 | − 11 0 59·1 | + 0·3 |
| 24 | I. & II. | 13 54 13·43 | +0·21 | S. | 7·9 | − 11 43 9·9 | + 1·6 |
| 28 | I. | 14 9 35·48 | +0·21 | …… | …… | ……………… | ……… |
| 29 | I. & II. | 14 13 27·90 | +0·20 | …… | …… | ……………… | ……… |
| Nov. 1 | II. | 14 25 9·78 | +0·06 | N. | 8·1 | − 14 24 21·7 | + 1·5 |
| 8 | I. & II. | 14 52 56·36 | +0·13 | S. | 8·2 | − 16 33 18·9 | + 2·9 |
| 9 | I. & II. | 14 56 57·76 | +0·16 | N. | 8·2 | − 16 50 43·1 | 0·0 |
| 14 | I. & II. | 15 17 17·30 | +0·37 | S. | 8·3 | − 18 13 2·2 | + 0·9 |
| 21 | I. & II. | 15 46 19·23 | +0·23 | N. | 8·4 | − 19 54 42·7 | + 0·1 |

| Date. | Right Ascension. | | | Declination. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ' " | " |
| Nov. 23 | I. & II. | 15 54 44·26 | + 0·09 | S. | +8·4 | − 20 20 33·7 | + 1·4 |
| 25 | ......... | ............... | ......... | N. | 8·4 | − 20 44 59·3 | − 2·0 |
| 29 | I. & II. | 16 20 18·76 | + 0·28 | S. | 8·5 | − 21 28 58·3 | + 2·3 |
| 30 | ......... | ............... | ......... | N. | 8·4 | − 21 39 3·1 | − 2·2 |
| Dec. 3 | I. & II. | 16 37 35·70 | + 0·08 | N. | 8·5 | − 22 6 32·7 | − 1·1 |
| 5 | ......... | ............... | ......... | S. | 8·5 | − 22 22 45·7 | − 1·6 |
| 7 | ......... | ... ........... | ......... | N. | 8·5 | − 22 37 14·2 | − 2·2 |
| 17 | I. & II. | 17 39 8·62 | + 0·02 | ... | ......... | ................. | ......... |
| 19 | ......... | ............... | ......... | S. | 8·5 | − 23 25 54·1 | − 0·1 |
| 23 | I. & II. | 18 5 47·27 | − 0·01 | N. | 8·5 | − 23 27 12·1 | + 1·2 |
| 24 | I. & II. | 18 10 14·14 | + 0·21 | S. | 8·5 | − 23 26 20·5 | + 1·7 |
| 27 | I. & II. | 18 23 33·83 | + 0·28 | N. | 8·5 | − 23 20 58·8 | + 0·5 |
| 28 | I. & II. | 18 28 0·08 | + 0·22 | S. | 8·5 | − 23 18 16·8 | − 1·8 |
| 29 | I. & II. | 18 32 26·22 | + 0·22 | N. | 8·5 | − 23 15 0·4 | + 2·4 |
| 31 | I. & II. | 18 41 17·77 | + 0·13 | ... | ......... | ................. | ......... |

## Observed Right Ascensions and Declinations of the Moon.

| Date. | Right Ascension. | | | Declination. | | | | |
|---|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Semidiameter. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | ″ | ′ ″ | ° ′ ″ | ″ |
| Jan. 5 | II. | 14 44 15·36 | − 0·75 | S. | +56 25·5 | +15 23·9 | −21 15 12·7 | − 0·6 |
| 6 | II. | 15 39 54·56 | − 0·59 | ...... | ............ | ............ | ................. | ......... |
| 15 | I. | 22 33 10·28 | + 0·19 | ...... | ............ | ............ | ................. | ......... |
| 17 | I. | 0 1 13·01 | + 0·42 | ...... | ............ | ............ | ................. | ......... |
| 18 | I. | 0 46 58·53 | + 0·29 | S. | 39 44·0 | +15 5·4 | +10 36 45·1 | + 4·0 |
| 19 | I. | 1 35 27·76 | + 0·20 | S. | 36 39·7 | +15 16·1 | +15 38 57·7 | + 4·4 |
| 20 | I. | 2 27 50·42 | + 0·02 | S. | 33 45·4 | +15 31·8 | +20 6 42·4 | + 2·3 |
| 22 | I. | 4 27 9·20 | − 0·34 | S. | 29 57·2 | +16 4·7 | +25 54 23·3 | + 4·8 |
| 24 | ...... | ..... ......... | ......... | N. | 31 12·5 | −16 33·8 | +24 59 49·9 | + 4·0 |
| 25 | I. | 7 48 0·58 | − 1·25 | N. | 34 34·4 | −16 42·6 | +21 36 16·9 | + 0·2 |
| 26 | II. | 8 51 52·65 | − 1·32 | S. | 39 30·5 | +16 45·7 | +16 34 34·9 | + 9·8 |
| 27 | II. | 9 52 4·30 | − 1·06 | S. | 44 16·2 | +16 43·3 | +10 24 43·9 | + 9·3 |
| Feb. 4 | II. | 17 16 1·22 | − 0·19 | ...... | ............ | ............ | ................. | ......... |
| 15 | I. | 1 18 41·54 | + 0·38 | S. | 37 25·3 | +15 5·3 | +13 55 19·5 | + 3·5 |
| 16 | I. | 2 8 41·00 | + 0·44 | S. | 34 24·1 | +15 15·5 | +18 31 40·7 | + 2·8 |
| 19 | I. | 5 2 57·44 | − 0·34 | S. | 29 20·4 | +15 57·9 | +26 21 12·3 | + 3·5 |
| 21 | I. | 7 13 20·84 | − 0·61 | ...... | ............ | ............ | ................. | ......... |
| 23 | I. | 9 19 2·87 | − 0·94 | N. | 41 8·3 | −16 44·4 | +13 56 32·4 | +10·1 |
| 24 | I. | 10 17 56·12 | − 0·95 | S. | 46 27·9 | +16 44·9 | + 7 27 32·0 | + 8·0 |
| 26 | II. | 12 10 30·15 | − 0·79 | S. | 53 48·5 | +16 29·2 | − 6 16 57·8 | + 8·3 |
| Mar. 3 | II. | 16 56 17·18 | − 0·08 | ...... | ............ | ............ | ................. | ......... |
| 18 | I. | 4 41 34·03 | + 0·10 | S. | 29 11·5 | +15 40·7 | +25 54 12·7 | + 0·4 |
| 19 | ...... | .............. | ......... | S. | 29 25·9 | +15 53·0 | +26 4 27·2 | + 4·1 |
| 21 | I. | 7 49 26·90 | − 0·84 | N. | 33 57·8 | −16 17·4 | +21 18 6·7 | + 5·4 |
| 22 | I. | 8 49 59·98 | − 0·60 | N. | 38 17·9 | −16 27·6 | +16 35 38·7 | + 7·5 |
| 24 | I. | 10 45 1·04 | − 0·36 | N. | 47 55·8 | −16 36·6 | + 4 10 41·0 | + 9·7 |
| 26 | II. | 12 36 41·58 | − 0·37 | S. | 55 1·7 | +16 27·0 | − 9 14 59·4 | +10·5 |
| Apr. 2 | II. | 19 21 51·45 | − 0·08 | ...... | ............ | ............ | ................. | ......... |
| 3 | II. | 20 12 57·11 | + 0·23 | ...... | ............ | ............ | ................. | ......... |
| 4 | II. | 21 1 13·74 | + 0·57 | ...... | ............ | ............ | ................. | ......... |
| 16 | I. | 6 27 29·87 | − 0·39 | ...... | ............ | ............ | ................. | ......... |
| 17 | I. | 7 29 6·27 | − 0·54 | N. | 32 36·0 | −16 2·4 | +22 16 33·8 | + 3·4 |
| 18 | I. | 8 28 41·95 | − 0·71 | N. | 36 21·0 | −16 10·2 | +18 9 55·7 | + 7·1 |
| 19 | I. | 9 25 57·83 | − 0·56 | N. | 40 48·5 | −16 16·8 | +12 53 39·6 | +10·3 |
| 20 | I. | 10 21 18·97 | − 0·40 | N. | 45 26·0 | −16 21·4 | + 6 48 51·3 | +12·4 |
| 21 | I. | 11 15 38·80 | − 0·23 | N. | 49 39·9 | −16 23·1 | + 0 18 21·5 | +11·1 |
| 22 | I. | 12 10 1·72 | − 0·38 | N. | 53 5·1 | −16 21·3 | − 6 13 47·4 | + 8·9 |
| 25 | II. | 15 2 2·17 | − 0·01 | S. | 57 9·9 | +15 56·1 | −21 55 56·4 | + 2·2 |
| 26 | II. | 16 2 41·17 | − 0·19 | S. | 56 51·1 | +15 43·0 | −24 40 42·7 | + 4·3 |
| May 1 | ..... | ............... | ......... | N. | 51 59·7 | −14 51·1 | −16 54 56·0 | − 5·5 |
| 2 | II. | 21 29 11·32 | + 0·28 | ...... | ............ | ............ | ................. | ......... |
| 17 | I. | 10 3 38·75 | − 0·47 | N. | 43 43·6 | −16 11·1 | + 8 35 8·2 | + 8·1 |
| 21 | I. | 13 38 32·77 | − 0·37 | N. | 55 46·1 | −16 1·2 | −15 41 42·8 | + 8·5 |
| 23 | I. | 15 34 22·78 | − 0·09 | S. | 56 46·7 | +15 44·7 | −23 36 13·1 | + 4·2 |
| June 1 | II. | 23 24 26·93 | + 0·09 | ...... | ............ | ............ | ................. | ......... |
| 2 | II. | 0 9 13·87 | + 0·43 | ...... | ............ | ............ | ................. | ......... |
| 10 | I. | 6 47 14·83 | − 1·50 | ...... | ............ | ............ | ................. | ......... |
| 11 | I. | 7 50 8·62 | − 1·63 | ...... | ............ | ............ | ................. | ......... |
| 12 | I. | 8 50 0·41 | − 1·47 | N. | 38 26·4 | −16 17·1 | +15 55 27·1 | + 7·7 |

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | | |
|---|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Semidiameter. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ' " | ° ' " | " |
| June 13 | I. | 9 46 41·91 | − 1·20 | N. | +42 43·4 | −16 15·6 | +10 16 20·2 | + 7·1 |
| 18 | I. | 14 15 39·14 | − 0·49 | N. | 55 52·7 | −15 48·0 | −18 54 54·5 | − 0·7 |
| 22 | I. & II. | 18 11 9·28 | − 0·39 | S. | 55 8·4 | +15 13·8 | −25 5 7·1 | − 5·3 |
| 23 | II. | 19 7 29·45 | − 0·44 | N. | 54 14·9 | −15 5·7 | −23 2 23·4 | + 1·6 |
| July 12 | I. | 11 16 4·43 | − 1·37 | N. | 49 51·1 | −16 20·8 | − 0 12 46·3 | +14·9 |
| 13 | ...... | ............... | ......... | N. | 52 44·6 | −16 11·6 | − 6 36 15·5 | + 6·0 |
| 14 | ...... | ............... | ......... | N. | 54 39·4 | −15 56·8 | −12 30 34·9 | + 6·2 |
| 15 | I. | 13 58 41·23 | − 0·40 | N. | 55 41·5 | −15 50·6 | −17 37 11·9 | − 0·2 |
| 16 | I. | 14 55 22·01 | − 0·30 | N. | 56 1·7 | −15 39·9 | −21 39 24·4 | − 2·4 |
| 21 | I. | 19 41 35·85 | − 0·26 | S. | 53 30·4 | +14 57·6 | −21 8 54·7 | − 5·1 |
| 22 | II. | 20 32 24·67 | − 0·10 | N. | 52 11·9 | −14 52·2 | −17 25 4·8 | − 3·0 |
| 23 | II. | 21 20 21·79 | − 0·22 | N. | 50 38·3 | −14 48·3 | −12 59 4·1 | − 1·1 |
| 31 | II. | 3 40 54·10 | − 0·13 | N. | 30 11·3 | −15 31·8 | +23 53 42·7 | − 3·5 |
| Aug. 2 | II. | 5 44 40·40 | − 0·19 | ...... | ............ | ............ | .................. | ......... |
| 11 | I. | 13 39 45·60 | − 0·92 | N. | 56 6·7 | −16 6·4 | −15 54 56·5 | +12·9 |
| 13 | I. | 15 35 31·57 | − 0·67 | ...... | ............ | ............ | .................. | ......... |
| 14 | I. | 16 34 36·23 | − 0·40 | N. | 55 49·2 | −15 25·7 | −25 23 15·2 | + 5·9 |
| 15 | I. | 17 33 12·32 | − 0·08 | ...... | ............ | ............ | .................. | ......... |
| 16 | I. | 18 30 8·39 | 0·00 | S. | 54 32·4 | +15 5·2 | −24 31 2·4 | − 2·7 |
| 17 | ...... | ............... | ......... | S. | 53 41·9 | +14 57·7 | −22 8 5·2 | − 5·0 |
| 18 | I. | 20 15 56·60 | + 0·25 | S. | 52 37·9 | +14 51·8 | −18 43 54·3 | − 2·8 |
| 19 | I. | 21 4 33·14 | + 0·24 | S. | 51 15·1 | +14 47·5 | −14 32 53·7 | − 4·4 |
| 20 | I. & II. | 21 50 50·24 | ......... | N. | 49 18·2 | −14 44·8 | − 9 48 32·7 | − 1·6 |
| 21 | II. | 22 35 31·19 | − 0·30 | N. | 47 6·1 | −14 43·7 | − 4 43 24·2 | − 1·2 |
| 22 | II. | 23 19 26·62 | − 0·21 | N. | 44 31·1 | −14 44·1 | + 0 31 21·4 | + 1·2 |
| 29 | II. | 5 16 24·36 | − 0·63 | ...... | ............ | ............ | .................. | ......... |
| 30 | II. | 6 18 52·80 | − 0·52 | ...... | ............ | ............ | .................. | ......... |
| Sept. 9 | I. | 15 13 23·22 | − 1·37 | ...... | ............ | ............ | .................. | ......... |
| 16 | I. | 21 35 57·29 | + 0·21 | ...... | ............ | ............ | .................. | ......... |
| 17 | I. | 22 21 1·95 | + 0·06 | S. | 47 57·9 | +14 44·0 | − 6 23 42·5 | − 4·7 |
| 18 | I. | 23 5 10·97 | − 0·14 | ...... | ............ | ............ | .................. | ......... |
| 20 | II. | 0 34 10·72 | − 0·49 | N. | 39 39·1 | −14 48·7 | + 9 7 2·5 | − 0·8 |
| 27 | II. | 6 56 0·37 | − 1·10 | S. | 31 54·8 | +15 52·8 | +23 14 5·6 | + 1·3 |
| 28 | II. | 7 56 20·66 | − 0·66 | S. | 35 14·2 | +16 6·9 | +19 53 17·0 | + 5·2 |
| 30 | II. | 9 53 7·83 | − 0·38 | ...... | ............ | ............ | .................. | ......... |
| Oct. 11 | I. | 19 41 29·95 | − 0·10 | S. | 53 49·1 | +15 4·1 | −20 44 24·9 | + 0·4 |
| 12 | I. | 20 32 12·13 | + 0·05 | S. | 52 27·0 | +14 55·4 | −17 5 7·7 | + 0·8 |
| 15 | I. | 22 49 57·14 | − 0·11 | S. | 46 34·5 | +14 45·5 | − 2 53 50·8 | + 2·4 |
| 17 | I. | 0 18 47·83 | − 0·45 | S. | 41 5·3 | +14 49·8 | + 7 25 41·6 | + 2·6 |
| 18 | ...... | ............... | ......... | N. | 37 44·0 | −14 54·3 | +12 19 27·0 | − 0·2 |
| 19 | II. | 1 53 40·94 | − 0·83 | N. | 34 45·7 | −15 0·1 | +16 46 4·1 | − 1·3 |
| 20 | II. | 2 45 12·29 | − 1·03 | N. | 32 7·1 | −15 6·8 | +20 30 56·7 | − 0·8 |
| 26 | II. | 8 33 36·83 | − 0·91 | S. | 37 32·0 | +16 1·2 | +16 48 27·2 | + 4·6 |
| 27 | II. | 9 29 47·81 | − 0·94 | S. | 41 55·2 | +16 10·9 | +11 37 19·4 | + 4·4 |
| 28 | II. | 10 24 52·91 | − 0·84 | S. | 46 28·4 | +16 19·2 | + 5 39 59·4 | + 5·1 |
| Nov. 9 | I. | 21 1 22·74 | − 0·21 | S. | 51 43·5 | +14 57·1 | −14 15 41·8 | + 0·9 |
| 13 | I. | 0 1 26·54 | − 0·01 | S. | 42 11·7 | +14 49·9 | + 5 37 48·1 | + 4·1 |
| 14 | I. | 0 47 5·67 | − 0·18 | S. | 39 15·4 | +14 54·6 | +10 36 1·4 | + 4·7 |
| 19 | II. | 5 17 20·66 | − 0·89 | ...... | ............ | ............ | .................. | ......... |
| Dec. 8 | I. | 22 14 13·86 | + 0·22 | S. | 48 33·9 | +14 51·6 | − 6 33 13·1 | + 3·4 |
| 11 | ...... | ............... | ......... | S. | 40 22·4 | +14 51·6 | + 8 41 27·4 | + 4·8 |
| 12 | I. | 1 14 9·68 | 0·00 | S. | 37 26·6 | +14 57·4 | +13 25 41·1 | + 7·3 |
| 13 | I. | 2 3 26·57 | + 0·21 | S. | 34 39·6 | +15 5·5 | +17 41 8·1 | + 6·1 |
| 16 | I. | 4 52 21·47 | − 0·59 | N. | 29 28·5 | −15 37·4 | +24 56 45·6 | + 0·1 |
| 17 | I. & II. | 5 54 3·47 | − 0·55 | N. | 30 4·2 | −15 47·7 | +24 37 47·2 | + 0·2 |
| 18 | II. | 6 55 56·00 | − 0·76 | S. | 32 29·3 | +15 56·7 | +22 42 46·9 | + 5·9 |
| 27 | II. | 15 22 45·02 | − 0·92 | ...... | ............ | ............ | .................. | ......... |

## Observed Right Ascensions and Declinations of Mercury.

| Date. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | " | ° ′ " | " |
| Jan. 2 | II. | 18 19 17·71 | + 0·11 | ...... | .................. | ......... |
| 27 | I. | 21 9 16·22 | + 0·01 | +6·1 | −18 25 25·7 | + 5·8 |
| 29 | I. | 21 23 15·59 | + 0·09 | 6·2 | −17 14 55·6 | + 3·2 |
| Feb. 5 | ...... | ............... | ......... | 6·6 | −12 27 6·8 | + 1·0 |
| 7 | ...... | ............... | ......... | 6·8 | −10 56 42·6 | − 4·6 |
| 8 | ...... | ............... | ......... | 6·9 | −10 10 53·1 | − 1·6 |
| 10 | I. | 22 39 33·58 | − 0·14 | 7·1 | − 8 39 33·1 | − 2·9 |
| 15 | I. | 23 1 47·44 | + 0·31 | 7·8 | − 5 7 26·7 | − 2·5 |
| 16 | I. | 23 4 58·96 | + 0·21 | ...... | .................. | ......... |
| 18 | ...... | ............... | ......... | 8·5 | − 3 26 38·4 | − 2·3 |
| 19 | ...... | ............... | ......... | 8·7 | − 2 59 50·1 | − 1·8 |
| 21 | I. | 23 12 55·81 | + 0·86 | 9·2 | − 2 18 32·9 | − 1·1 |
| Mar. 16 | ...... | ............... | ......... | 11·1 | − 9 4 33·5 | − 1·6 |
| 28 | II. | 22 50 34·47 | + 0·22 | 8·9 | − 8 53 34·8 | + 7·3 |
| Apr. 4 | II. | 23 19 51·54 | + 0·28 | ...... | .................. | ......... |
| 7 | II. | 23 34 15·03 | + 0·16 | 7·4 | − 5 25 11·2 | + 5·5 |
| 8 | ...... | ............... | ......... | 7·3 | − 4 56 20·6 | + 5·3 |
| 10 | II. | 23 49 33·15 | + 0·14 | 7·0 | − 3 54 45·4 | + 5·3 |
| 15 | II. | 0 16 55·16 | + 0·32 | 6·4 | − 0 59 32·0 | + 3·7 |
| 19 | ...... | ............... | ......... | 5·9 | + 1 40 33·3 | + 4·6 |
| 20 | II. | 0 46 35·82 | + 0·11 | 5·7 | + 2 23 2·4 | + 2·6 |
| 21 | II. | 0 52 49·73 | + 0·15 | 5·7 | + 3 6 29·9 | + 3·2 |
| 22 | II. | 0 59 9·77 | + 0·01 | 5·6 | + 3 50 49·9 | + 3·3 |
| 25 | II. | 1 18 50·01 | − 0·09 | 5·2 | + 6 8 39·6 | + 0·6 |
| 26 | II. | 1 25 37·82 | + 0·19 | 5·1 | + 6 56 3·1 | − 0·5 |
| 27 | II. | 1 32 32·62 | + 0·03 | 5·0 | + 7 44 4·4 | − 1·2 |
| 28 | ...... | ............... | ......... | 4·9 | + 8 32 41·2 | + 0·7 |
| May 1 | II. | 2 1 31·47 | − 0·05 | 4·6 | +11 0 52·3 | + 0·7 |
| 2 | II. | 2 9 6·58 | − 0·42 | 4·6 | +11 50 42·2 | − 1·3 |
| 3 | ...... | ............... | ......... | 4·4 | +12 40 38·8 | + 1·7 |
| 18 | ...... | ............... | ......... | 3·7 | +22 43 33·0 | − 4·1 |
| 23 | I. | 5 0 29·31 | − 0·73 | 3·7 | +24 41 2·2 | − 2·8 |
| June 6 | I. | 6 39 26·20 | − 0·32 | 4·8 | +24 58 8·1 | + 4·6 |
| 7 | I. | 6 44 47·60 | − 0·21 | 4·8 | +24 46 28·1 | + 1·7 |
| 8 | I. | 6 49 53·42 | − 0·27 | ...... | .................. | ......... |
| 9 | I. | 6 54 43·71 | − 0·20 | 5·2 | +24 19 59·3 | + 3·0 |
| 10 | I. | 6 59 18·05 | − 0·13 | 5·4 | +24 5 18·6 | + 2·6 |
| 11 | I. | 7 3 36·19 | − 0·04 | ...... | .................. | ......... |
| 13 | I. | 7 11 22·41 | − 0·06 | ...... | .................. | ......... |
| 14 | I. | 7 14 49·90 | − 0·12 | 6·0 | +22 59 36·8 | + 4·2 |
| 21 | ...... | ............... | ......... | 7·3 | +20 53 6·6 | + 3·1 |
| 22 | I. | 7 31 35·80 | − 0·02 | 7·5 | +20 35 30·0 | + 6·2 |
| 27 | I. | 7 31 42·55 | − 0·30 | ...... | .................. | ......... |
| July 20 | II. | 6 50 48·93 | + 0·05 | 7·2 | +19 7 14·1 | + 1·0 |
| 22 | II. | 6 53 3·40 | + 0·06 | ...... | .................. | ......... |
| Aug. 2 | II. | 7 35 33·05 | − 0·07 | 4·8 | +20 59 56·7 | − 0·2 |
| 5 | ...... | ............... | ......... | 4·5 | +20 52 21·0 | − 1·5 |

| Date. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | " | ° ′ " | " |
| Aug. 15 | II. | 9 13 40·29 | − 0·32 | +4·1 | +17 41 13·4 | + 1·4 |
| 31 | I. | 11 6 10·90 | − 0·29 | 4·6 | + 7 15 46·3 | + 2·6 |
| Sept. 6 | I. | 11 44 22·99 | − 0·08 | 5·0 | + 2 35 18·6 | + 2·0 |
| 29 | ...... | ............... | ......... | 7·0 | −13 14 22·4 | + 3·0 |
| 30 | I. | 13 52 19·40 | + 0·17 | 7·1 | −13 47 29·3 | + 2·9 |
| Oct. 11 | I. | 14 36 54·04 | + 0·19 | 8·7 | −18 35 44·9 | + 2·8 |
| 15 | I. | 14 47 43·96 | + 0·16 | 9·5 | −19 32 56·5 | + 1·9 |
| 18 | I. | 14 52 28·57 | + 0·43 | 10·1 | −19 50 48·2 | + 2·3 |
| Nov. 20 | II. | 14 33 10·74 | + 0·07 | ...... | ................. | ......... |
| 22 | II. | 14 43 22·20 | + 0·07 | ...... | ................. | ......... |
| Dec. 2 | II. | 15 41 7·54 | + 0·29 | ...... | ................. | ......... |
| 4 | ...... | ............... | ......... | 6·1 | −19 39 21·4 | + 5·2 |

## OBSERVED RIGHT ASCENSIONS AND DECLINATIONS OF VENUS.

| Date. | Right Ascension. | | | Declination. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ′ " | " |
| Jan. 2 | II. | 17 51 23·60 | + 0·47 | Centre | + 5·2 | − 23 15 6·6 | + 4·8 |
| 6 | II. | 18 13 18·12 | + 0·36 | Centre | 5·2 | − 23 23 55·2 | + 4·8 |
| 19 | II. | 19 24 16·84 | − 0·21 | ......... | ...... | ................. | ......... |
| 20 | II. | 19 29 40·84 | − 0·44 | Centre | 5·0 | − 22 23 58·8 | + 3·6 |
| 24 | II. | 19 51 9·73 | − 0·44 | Centre | 5·0 | − 21 41 38·0 | + 6·2 |
| 26 | II. | 20 1 48·82 | − 0·40 | Centre | 4·9 | − 21 16 32·9 | + 4·6 |
| 27 | II. | 20 7 7·64 | + 0·36 | Centre | 4·9 | − 21 3 2·2 | + 4·3 |
| 28 | II. | 20 12 24·69 | + 0·37 | Centre | 4·9 | − 20 48 52·5 | + 5·1 |
| Feb. 1 | II. | 20 33 22·07 | + 0·45 | Centre | 4·9 | − 19 46 11·6 | + 4·6 |
| 2 | ...... | ............... | ......... | Centre | 4·9 | − 19 29 1·8 | + 5·4 |
| 3 | II. | 20 43 43·77 | + 0·30 | Centre | 4·9 | − 19 11 22·1 | + 3·1 |
| 4 | II. | 20 48 53·01 | + 0·38 | Centre | 4·8 | − 18 53 3·1 | + 4·6 |
| 6 | ...... | ............... | ......... | Centre | 4·8 | − 18 14 53·6 | + 3·4 |
| 9 | ...... | ............... | ......... | Centre | 4·8 | − 17 13 45·4 | + 2·3 |
| 10 | II. | 21 19 22·34 | + 0·15 | Centre | 4·7 | − 16 52 22·7 | + 2·6 |
| 15 | II. | 21 44 13·47 | + 0·21 | Centre | 4·7 | − 14 58 38·9 | + 3·0 |
| 17 | ...... | ............... | ......... | Centre | 4·7 | − 14 10 12·2 | + 2·8 |
| 18 | ...... | ............... | ......... | Centre | 4·7 | − 13 45 23·2 | + 3·3 |
| March 18 | I. | 0 4 56·30 | + 0·11 | Centre | 4·2 | − 0 56 1·1 | − 2·6 |
| 19 | I. | 0 9 28·91 | + 0·01 | ......... | 4·1 | − 0 25 31·6 | − 2·6 |
| 23 | ...... | ............... | ......... | ......... | 4·0 | + 1 36 32·8 | − 2·2 |
| 26 | I. & II. | 0 41 15·66 | − 0·46 | ......... | 3·9 | + 3 7 50·2 | − 4·0 |
| April 1 | ...... | ............... | ......... | ......... | 3·8 | + 6 8 32·3 | − 1·7 |
| 4 | I. | 1 22 21·72 | 0·00 | ......... | 3·7 | + 7 37 10·7 | − 4·7 |
| 5 | I. | 1 26 57·72 | − 0·10 | ......... | 3·7 | + 8 6 25·5 | − 4·2 |
| 6 | I. | 1 31 34·44 | − 0·07 | ......... | 3·6 | + 8 35 29·1 | − 4·1 |

| Date. | Right Ascension. | | | Declination. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | ″ | ° ′ ″ | ° |
| April 8 | I. | 1 40 49·66 | − 0·08 | Centre | +3·6 | + 9 32 59·8 | − 4·4 |
| 9 | I. | 1 45 28·36 | + 0·01 | Centre | 3·6 | + 10 1 27·4 | − 2·8 |
| 11 | ...... | ............... | ......... | Centre | 3·6 | + 10 57 34·2 | − 5·3 |
| 12 | I. | 1 59 28·48 | − 0·14 | ......... | ......... | ................. | ......... |
| 16 | I. | 2 18 20·11 | − 0·28 | Centre | 3·4 | + 13 13 12·8 | − 4·9 |
| 19 | I. | 2 32 38·69 | − 0·05 | Centre | 3·3 | + 14 30 50·4 | − 4·6 |
| 20 | I. | 2 37 26·69 | − 0·10 | Centre | 3·3 | + 14 56 1·9 | − 3·5 |
| 21 | I. | 2 42 15·69 | − 0·16 | Centre | 3·3 | + 15 20 49·3 | − 4·2 |
| 22 | I. | 2 47 5·71 | − 0·24 | Centre | 3·3 | + 15 45 14·4 | − 4·1 |
| 23 | I. | 2 51 56·76 | − 0·32 | Centre | 3·2 | + 16 9 15·6 | − 4·2 |
| 25 | I. | 3 1 42·40 | − 0·14 | Centre | 3·2 | + 16 56 3·5 | − 4·8 |
| 26 | I. | 3 6 36·53 | − 0·39 | Centre | 3·2 | + 17 18 49·3 | − 4·7 |
| 27 | I. | 3 10 32·23 | − 0·17 | Centre | 3·2 | + 17 41 9·4 | − 3·5 |
| 28 | I. | 3 16 28·93 | − 0·07 | Centre | 3·2 | + 18 2 59·1 | − 5·4 |
| 29 | I. | 3 21 26·28 | − 0·45 | Centre | 3·1 | + 18 24 21·5 | − 6·4 |
| 30 | ...... | ............... | ......... | Centre | 3·1 | + 18 45 19·4 | − 3·1 |
| May 2 | I. | 3 36 26·59 | − 0·07 | Centre | 3·0 | + 19 25 37·6 | − 4·5 |
| 3 | ...... | ............... | ......... | Centre | 3·0 | + 19 44 59·4 | − 6·3 |
| 12 | I. | 4 27 37·28 | − 0·47 | ......... | ......... | ................. | ......... |
| 17 | I. | 4 53 49·31 | − 0·30 | Centre | 2·9 | + 23 16 13·0 | − 2·1 |
| 18 | ...... | ............... | ......... | Centre | 2·9 | + 23 26 37·8 | + 0·1 |
| 26 | ...... | ............... | ......... | Centre | 2·8 | + 24 24 56·1 | − 0·9 |
| 27 | I. | 5 47 1·36 | − 0·23 | ......... | ......... | ................. | ......... |
| 28 | ...... | ............... | ......... | Centre | 2·8 | + 24 32 28·2 | − 0·7 |
| 30 | I. | 6 3 5·48 | − 0·19 | ......... | ......... | ................. | ......... |
| June 2 | I. | 6 19 9·64 | − 0·35 | ......... | ......... | ................. | ......... |
| 6 | I. | 6 40 32·76 | − 0·37 | Centre | 2·9 | + 24 30 41·2 | + 0·2 |
| 7 | I. | 6 45 52·82 | − 0·19 | Centre | 2·9 | + 24 26 53·4 | + 0·7 |
| 8 | I. | 6 51 12·34 | − 0·09 | ......... | ......... | ................. | ......... |
| 9 | I. | 6 56 31·20 | − 0·09 | Centre | 2·9 | + 24 17 7·2 | − 0·6 |
| 10 | I. | 7 1 49·29 | − 0·26 | Centre | 3·0 | + 24 11 11·8 | + 0·3 |
| 11 | I. | 7 7 7·03 | − 0·12 | ......... | ......... | ................. | ......... |
| 13 | I. | 7 17 39·96 | − 0·14 | Centre | 3·0 | + 23 49 13·2 | + 1·7 |
| 14 | I. | 7 22 55·32 | − 0·03 | Centre | 3·0 | + 23 40 30·0 | + 1·3 |
| 15 | I. | 7 28 9·39 | − 0·30 | Centre | 3·0 | + 23 31 5·9 | + 0·7 |
| 21 | I. | 7 59 14·54 | + 0·10 | Centre | 3·3 | + 22 20 55·0 | + 1·2 |
| 22 | I. | 8 4 21·33 | + 0·04 | Centre | 3·3 | + 22 6 59·5 | + 1·4 |
| 23 | I. | 8 9 26·90 | − 0·03 | Centre | 3·3 | + 21 52 28·4 | + 2·9 |
| July 5 | I. | 9 8 52·49 | + 0·10 | ......... | ......... | ................. | ......... |
| 14 | ...... | ............... | ......... | Centre | 4·3 | + 14 43 48·7 | + 4·6 |
| 15 | I. | 9 55 53·39 | + 0·26 | Centre | 4·3 | + 14 18 30·1 | + 5·0 |
| 16 | I. | 10 0 27·98 | + 0·16 | Centre | 4·4 | + 13 52 49·9 | + 4·9 |
| 19 | I. | 10 14 4·49 | + 0·21 | Centre | 4·6 | + 12 33 48·6 | + 3·7 |
| 21 | I. | 10 23 2·71 | + 0·26 | Centre | 4·7 | + 11 39 37·1 | + 4·7 |
| 22 | I. | 10 27 29·84 | + 0·07 | Centre | 4·7 | + 11 12 6·1 | + 5·4 |
| 23 | I. | 10 31 56·21 | + 0·26 | Centre | 4·8 | + 10 44 16·5 | + 4·2 |
| 26 | ...... | ............... | ......... | Centre | 5·0 | + 9 19 22·9 | + 5·4 |
| 28 | I. | 10 53 51·33 | + 0·45 | N. | 5·2 | + 8 21 38·2 | + 5·7 |
| 29 | I. | 10 58 11·32 | + 0·42 | ......... | ......... | ................. | ......... |
| Aug. 1 | ...... | ............... | ......... | N. | 5·4 | + 6 23 48·2 | + 5·6 |
| 2 | I. | 11 15 22·53 | + 0·36 | ......... | ......... | ................. | ......... |
| 4 | I. | 11 23 53·66 | + 0·61 | ......... | ......... | ................. | ......... |
| 5 | I. | 11 28 7·62 | + 0·22 | N. | 5·7 | + 4 23 26·7 | + 5·0 |
| 11 | I. | 11 53 21·03 | + 0·55 | ......... | ......... | ................. | ......... |
| 16 | I. | 12 14 8·51 | + 0·80 | N. | 5·3 | − 1 14 36·1 | + 3·9 |
| 17 | I. | 12 18 16·26 | + 0·22 | ......... | ......... | ................. | ......... |

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ′ " | " |
| Aug. 18 | I. | 12 22 24·59 | + 0·52 | ......... | ......... | ................. | ......... |
| 22 | I. | 12 38 54·19 | + 0·32 | ......... | ......... | ................. | ......... |
| 26 | ...... | ............... | ......... | ......... | ......... | ................. | ......... |
| Sept. 6 | ...... | ............... | ......... | N. | +8·5 | − 11 44 58·4 | + 1·8 |
| 10 | I. | 13 57 18·32 | + 0·74 | ......... | ......... | ................. | ......... |
| 12 | I. | 14 5 37·18 | + 0·41 | ......... | ......... | ................. | ......... |
| 19 | I. | 14 34 53·08 | + 0·73 | N. | 10·0 | − 17 30 32·9 | + 1·3 |
| 29 | ...... | ............... | ......... | N. | 11·2 | − 21 15 43·3 | + 0·4 |
| 30 | I. | 15 21 12·35 | + 0·61 | ......... | ......... | ................. | ......... |
| Oct. 4 | I. | 15 38 3·98 | + 0·49 | ......... | ......... | ................. | ......... |
| 8 | I. | 15 54 51·43 | + 0·59 | N. | 12·4 | − 23 59 58·4 | − 5·6 |
| 11 | I. | 16 7 21·09 | + 0·62 | ......... | ......... | ................. | ......... |
| 12 | I. | 16 11 29·51 | + 0·75 | N. | 13·1 | − 24 59 39·3 | − 1·9 |
| 13 | I. | 16 15 36·76 | + 0·71 | ......... | ......... | ................. | ......... |
| 19 | I. | 16 39 53·46 | + 0·46 | N. | 14·4 | − 26 23 18·3 | − 1·2 |
| 24 | I. | 16 59 19·13 | + 0·93 | ......... | ......... | ................. | ......... |
| Nov. 1 | I. | 17 28 2·15 | + 0·87 | ......... | ......... | ................. | ......... |
| 4 | I. | 17 37 47·97 | + 1·24 | ......... | ......... | ................. | ......... |
| 14 | I. | 18 4 35·38 | + 1·37 | ......... | ......... | ................. | ......... |
| 23 | I. | 18 18 18·44 | + 1·67 | Centre | 24·5 | − 26 53 8·2 | − 15·5 |
| 30 | I. | 18 20 2·18 | + 1·95 | Centre | 27·3 | − 25 51 48·3 | − 14·1 |
| Dec. 3 | I. | 18 18 6·41 | + 2·24 | ......... | ......... | ................. | ......... |
| 7 | ...... | ............... | ......... | Centre | 29·9 | − 24 29 44·1 | − 24·6 |
| 22 | II. | 17 35 48·11 | + 2·33 | S. | 31·3 | − 20 25 18·2 | − 22·7 |
| 23 | II. | 17 33 28·51 | + 2·46 | S. | 30·9 | − 20 10 22·5 | − 22·1 |
| 26 | II. | 17 27 7·85 | + 2·31 | S. | 30·5 | − 19 28 28·0 | − 21·0 |
| 27 | II. | 17 25 16·37 | + 2·45 | S. | 30·1 | − 19 15 35·1 | − 16·9 |

## OBSERVED RIGHT ASCENSIONS AND DECLINATIONS OF MARS.

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ′ " | " |
| Jan. 4 | I. | 22 4 17·06 | + 0·18 | Centre | + 4·2 | − 12 57 39·1 | + 1·1 |
| 5 | ...... | ............... | ......... | Centre | 4·2 | − 12 40 41·3 | + 1·3 |
| 6 | I. | 22 10 12·68 | + 0·22 | Centre | 4·1 | − 12 23 36·9 | + 1·2 |
| 7 | I. | 22 13 9·91 | + 0·26 | Centre | 4·1 | − 12 6 25·5 | + 1·6 |
| 15 | I. | 22 36 33·47 | + 0·08 | ......... | ......... | ................. | ......... |
| 17 | I. | 22 42 20·95 | + 0·31 | ......... | ......... | ................. | ......... |
| 18 | I. | 22 45 13·95 | + 0·21 | Centre | 3·9 | − 8 51 6·9 | + 1·9 |
| 20 | ...... | ............... | ......... | Centre | 3·9 | − 8 14 36·2 | + 0·8 |
| 21 | I. | 22 53 51·02 | + 0·04 | Centre | 3·8 | − 7 56 15·7 | − 0·3 |
| 25 | I. | 23 5 16·36 | + 0·30 | Centre | 3·7 | − 6 42 17·0 | 0·0 |
| 27 | I. | 23 10 57·01 | + 0·24 | Centre | 3·7 | − 6 5 0·6 | + 0·4 |
| 28 | I. | 23 13 47·08 | + 0·38 | Centre | 3·7 | − 5 46 18·1 | + 1·4 |

| Date. | | Right Ascension. | | | Declination. | | | |
|---|---|---|---|---|---|---|---|---|
| | | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb Observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | | h. m. s. | s. | | " | ° ' " | " |
| Jan. | 29 | I. | 23 16 36·64 | + 0·28 | Centre | + 3·7 | − 5 27 36·0 | − 0·3 |
| Feb. | 3 | I. | 23 30 41·28 | + 0·34 | Centre | 3·6 | − 3 53 31·8 | − 1·0 |
| | 5 | I. | 23 36 17·47 | + 0·28 | Centre | 3·5 | − 3 15 42·7 | + 1·3 |
| | 7 | ...... | ............... | ......... | Centre | 3·5 | − 2 37 53·8 | + 0·6 |
| | 10 | I. | 23 50 14·64 | + 0·16 | Centre | 3·4 | − 1 41 7·6 | + 0·4 |
| | 16 | I. | 0 6 54·16 | + 0·24 | Centre | 3·3 | + 0 12 11·9 | − 1·6 |
| | 18 | ...... | ............... | ......... | Centre | 3·3 | + 0 49 51·7 | − 0·2 |
| | 19 | ...... | ............... | ......... | Centre | 3·2 | + 1 8 38·0 | − 0·5 |
| | 21 | I. | 0 20 43·73 | + 0·35 | Centre | 3·2 | + 1 46 5·1 | − 1·0 |
| | 24 | I. | 0 29 0·27 | + 0·30 | ......... | ......... | .................. | ......... |
| Mar. | 1 | I. | 0 42 46·74 | + 0·19 | Centre | 3·0 | + 4 14 15·1 | − 0·8 |
| | 4 | ...... | ............... | ......... | Centre | 3·0 | + 5 8 57·2 | − 0·2 |
| | 7 | I. | 0 59 18·33 | + 0·23 | ......... | ......... | .................. | ......... |
| | 9 | ...... | ............... | ......... | Centre | 2·9 | + 6 38 45·8 | − 1·1 |
| | 10 | I. | 1 7 34·48 | + 0·24 | Centre | 2·8 | + 6 56 29·6 | − 1·9 |
| | 18 | I. | 1 29 40·26 | + 0·25 | Centre | 2·7 | + 9 15 20·5 | − 1·1 |
| | 19 | ...... | ............... | ......... | Centre | 2·7 | + 9 32 15·8 | − 1·4 |
| | 21 | I. | 1 37 58·86 | + 0·30 | Centre | 2·6 | + 10 5 49·2 | − 0·6 |
| | 26 | ...... | ............... | ......... | Centre | 2·6 | + 11 27 45·3 | − 0·9 |
| | 28 | ...... | ............... | ......... | Centre | 2·5 | + 11 59 43·4 | − 0·6 |
| | 29 | I. | 2 0 13·48 | + 0·32 | Centre | 2·5 | + 12 15 31·4 | − 0·5 |
| | 31 | I. | 2 5 48·38 | + 0·15 | ......... | ......... | .................. | ......... |
| Apr. | 2 | I. | 2 11 24·34 | + 0·37 | Centre | 2·4 | + 13 17 26·0 | − 2·0 |
| | 5 | I. | 2 20 49·28 | + 0·38 | Centre | 2·4 | + 14 2 31·1 | − 0·9 |
| | 6 | I. | 2 22 37·90 | + 0·32 | Centre | 2·4 | + 14 17 16·4 | − 0·4 |
| | 8 | I. | 2 28 15·91 | + 0·39 | Centre | 2·3 | + 14 46 18·1 | − 2·9 |
| | 9 | I. | 2 31 5·25 | + 0·48 | ......... | ......... | .................. | ......... |
| | 11 | I. | 2 36 44·01 | + 0·14 | Centre | 2·3 | + 15 28 49·4 | − 2·4 |
| | 12 | I. | 2 39 34·10 | + 0·39 | ......... | ......... | .................. | ......... |
| | 16 | I. | 2 50 55·21 | + 0·22 | Centre | 2·2 | + 16 36 38·1 | − 1·9 |
| | 20 | I. | 3 2 19·66 | + 0·32 | ......... | ......... | .................. | ......... |
| | 21 | I. | 3 5 11·27 | + 0·35 | ......... | ......... | .................. | ......... |
| | 22 | I. | 3 8 3·07 | + 0·38 | ......... | ......... | .................. | ......... |
| | 23 | I. | 3 10 54·89 | + 0·24 | ......... | ......... | .................. | ......... |
| | 25 | I. | 3 16 39·47 | + 0·32 | ......... | ......... | .................. | ......... |
| | 26 | ...... | ............... | ......... | Centre | 2·1 | + 18 39 59·1 | − 1·1 |
| | 27 | I. | 3 22 24·84 | + 0·40 | Centre | 2·1 | + 18 51 20·1 | − 3·3 |
| | 28 | I. | 3 25 17·83 | + 0·44 | Centre | 2·1 | + 19 2 34·0 | − 1·9 |
| | 29 | I. | 3 28 10·88 | + 0·36 | Centre | 2·1 | + 19 13 35·8 | − 1·9 |
| | 30 | ...... | ............... | ......... | Centre | 2·1 | + 19 24 26·5 | − 2·1 |
| Aug. | 30 | II. | 9 19 21·56 | + 0·20 | ......... | ......... | .................. | ......... |
| Sept. | 30 | II. | 10 35 5·38 | + 0·46 | ......... | ......... | .................. | ......... |
| Oct. | 3 | II. | 10 42 9·51 | + 0·45 | Centre | 2·5 | + 9 35 57·0 | − 4·3 |
| | 7 | II. | 10 51 31·11 | + 0·14 | Centre | 2·6 | + 8 40 0·1 | − 3·3 |
| | 10 | II. | 10 58 30·14 | + 0·33 | ......... | ......... | .................. | ......... |
| | 11 | II. | 11 0 49·60 | + 0·64 | ......... | ......... | .................. | ......... |
| | 13 | II. | 11 5 27·05 | + 0·47 | ......... | ......... | .................. | ......... |
| | 14 | II. | 11 7 45·45 | + 0·39 | ......... | ......... | .................. | ......... |
| | 18 | II. | 11 16 57·26 | + 0·28 | ......... | ......... | .................. | ......... |
| | 19 | II. | 11 19 14·71 | + 0·22 | ......... | ......... | .................. | ......... |
| | 28 | II. | 11 39 44·91 | + 0·37 | Centre | 2·8 | + 3 38 20·2 | − 2·3 |
| | 31 | II. | 11 46 32·26 | + 0·38 | ......... | ......... | .................. | ......... |

## Observed Right Ascensions and Declinations of Vesta.

| Date. | Right Ascension. | | Declination. | | |
|---|---|---|---|---|---|
| | Right Ascension. | Difference from Nautical Almanac. | Parallax in Declination. | Declination. | Difference from Nautical Almanac. |
| 1842. | h. m. s. | s. | " | ° ′ " | " |
| Jan. 6 | 1 39 30·81 | ............ | ......... | .................... | ......... |
| 7 | 1 40 8·02 | ............ | ......... | .................... | ......... |
| 17 | 1 47 20·68 | ............ | ......... | .................... | ......... |
| 25 | 1 54 21·06 | ............ | ......... | .................... | ......... |
| 28 | 1 57 13·93 | ............ | ......... | .................... | ......... |
| 29 | 1 58 13·09 | ............ | ......... | .................... | ......... |
| Feb. 3 | 2 3 22·26 | ............ | + 2·5 | + 6 47 36·1 | ......... |
| 5 | 2 5 31·36 | ............ | 2·5 | + 7 4 59·4 | ......... |

## Observed Right Ascensions and Declinations of Juno.

| Date. | Right Ascension. | | Declination. | | |
|---|---|---|---|---|---|
| | Right Ascension. | Difference from Nautical Almanac. | Parallax in Declination. | Declination. | Difference from Nautical Almanac. |
| 1842. | h. m. s. | s. | " | ° ′ " | " |
| May 27 | ............... | ............ | + 3·1 | − 3 14 3·7 | − 7·5 |
| June 1 | 16 12 14·93 | + 1·25 | ......... | ................. | ......... |
| 2 | 16 11 25·44 | + 1·16 | ......... | ................. | ......... |
| 6 | 16 8 10·99 | + 1·19 | 3·1 | − 2 51 55·7 | − 12·2 |
| 8 | 16 6 36·58 | + 1·54 | 3·1 | − 2 49 9·7 | − 14·8 |

## Observed Right Ascensions and Declinations of Ceres.

| Date. | Right Ascension. | | Declination. | | |
|---|---|---|---|---|---|
| | Right Ascension. | Difference from Nautical Almanac. | Parallax in Declination. | Declination. | Difference from Nautical Almanac. |
| 1842. | h. m. s. | | | | |
| Jan. 4 | 1 11 47·99 | ............ | ......... | .................... | ......... |
| 6 | 1 12 58·98 | ............ | ......... | .................... | ......... |
| 12 | 1 16 56·09 | ............ | ......... | .................... | ......... |
| 15 | 1 19 7·58 | ............ | ......... | .................... | ......... |
| 17 | 1 20 40·32 | ............ | ......... | .................... | ......... |
| 29 | 1 31 6·41 | ............ | ......... | .................... | ......... |

## OBSERVED RIGHT ASCENSIONS AND DECLINATIONS OF JUPITER.

| Date. | RIGHT ASCENSION. | | | DECLINATION. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ′ " | " |
| June 23 | I. & II. | 19 25 55·33 | − 0·68 | Centre | + 1·9 | −22 12 17·5 | + 5·8 |
| 28 | ........ | ........ | ........ | Centre | 1·9 | −22 18 16·5 | + 0·9 |
| July 6 | I. & II. | 19 19 5·84 | − 0·41 | ........ | ........ | ........ | ........ |
| 7 | I. & II. | 19 18 33·00 | − 0·38 | ........ | ........ | ........ | ........ |
| 9 | I. & II. | 19 17 26·92 | − 0·52 | Centre | 2·0 | −22 31 16·6 | + 1·9 |
| 13 | I. & II. | 19 15 15·14 | − 0·30 | Centre | 2·0 | −22 35 50·6 | + 2·6 |
| 14 | I. & II. | 19 14 42·31 | − 0·26 | Centre | 2·0 | −22 36 56·8 | + 3·4 |
| 15 | I. & II. | 19 14 9·61 | − 0·18 | Centre | 2·0 | −22 38 3·2 | + 3·2 |
| 16 | I. & II. | 19 13 36·96 | − 0·16 | Centre | 2·0 | −22 39 6·2 | + 5·6 |
| 21 | I. & II. | 19 10 56·18 | − 0·24 | Centre | 2·1 | −22 44 22·1 | + 5·8 |
| 22 | I. & II. | 19 10 24·65 | − 0·30 | Centre | 2·1 | −22 45 23·7 | + 4·9 |
| 23 | I. & II. | 19 9 53·34 | − 0·42 | Centre | 2·1 | −22 46 23·6 | + 4·7 |
| 27 | I. & II. | 19 7 51·88 | − 0·24 | Centre | 2·0 | −22 50 12·9 | + 4·5 |
| 28 | I. & II. | 19 7 22·31 | − 0·29 | Centre | 2·0 | −22 51 8·4 | + 3·7 |
| 29 | I. & II. | 19 6 53·24 | − 0·25 | Centre | 2·0 | −22 52 1·6 | + 4·2 |
| 30 | I. & II. | 19 6 24·65 | − 0·14 | Centre | 2·0 | −22 52 51·5 | + 6·9 |
| Aug. 1 | I. & II. | 19 5 28·43 | − 0·29 | ........ | ........ | ........ | ........ |
| 2 | I. & II. | 19 5 1·20 | − 0·19 | Centre | 2·0 | −22 55 26·6 | + 2·9 |
| 3 | I. & II. | 19 4 34·53 | − 0·01 | Centre | 2·0 | −22 56 12·5 | + 5·1 |
| 4 | ........ | ........ | ........ | Centre | 2·0 | −22 57 0·7 | + 3·8 |
| 5 | ........ | ........ | ........ | Centre | 2·0 | −22 57 41·8 | + 8·5 |
| 13 | I. & II. | 19 0 37·44 | − 0·10 | Centre | 2·0 | −23 3 10·6 | + 1·8 |
| 16 | ........ | ........ | ........ | Centre | 2·0 | −23 4 49·4 | + 3·5 |
| 17 | ........ | ........ | ........ | Centre | 2·0 | −23 5 25·0 | + 1·1 |
| 20 | I. & II. | 18 58 30·75 | − 0·02 | Centre | 2·0 | −23 6 45·2 | + 4·4 |
| 22 | I. & II. | 18 58 1·11 | − 0·00 | Centre | 2·0 | −23 7 36·9 | + 3·9 |
| 24 | ........ | ........ | ........ | Centre | 1·9 | −23 8 20·4 | + 6·7 |
| 30 | I. & II. | 18 56 33·40 | + 0·02 | Centre | 1·9 | −23 10 13·9 | + 3·4 |
| Sept. 6 | I. & II. | 18 55 58·92 | − 0·09 | ........ | ........ | ........ | ........ |
| 12 | I. & II. | 18 56 1·95 | − 0·03 | ........ | ........ | ........ | ........ |
| 17 | I. & II. | 18 56 27·42 | + 0·08 | ........ | ........ | ........ | ........ |
| 19 | I. & II. | 18 56 43·28 | + 0·06 | ........ | ........ | ........ | ........ |
| 20 | I. & II. | 18 56 52·34 | − 0·03 | ........ | ........ | ........ | ........ |
| 30 | I. & II. | 18 59 7·58 | − 0·12 | ........ | ........ | ........ | ........ |
| Oct. 4 | I. & II. | 19 0 23·54 | − 0·05 | ........ | ........ | ........ | ........ |
| 7 | I. & II. | 19 1 28·32 | − 0·08 | ........ | ........ | ........ | ........ |
| 8 | I. & II. | 19 1 51·38 | − 0·08 | ........ | ........ | ........ | ........ |
| 11 | I. & II. | 19 3 4·90 | − 0·04 | ........ | ........ | ........ | ........ |
| 12 | I. & II. | 19 3 30·74 | − 0·11 | ........ | ........ | ........ | ........ |
| 13 | I. & II. | 19 3 57·28 | − 0·17 | ........ | ........ | ........ | ........ |
| 19 | I. & II. | 19 6 50·83 | − 0·25 | ........ | ........ | ........ | ........ |
| 20 | I. & II. | 19 7 22·10 | − 0·19 | ........ | ........ | ........ | ........ |
| 21 | I. & II. | 19 7 53·94 | − 0·18 | Centre | 1·6 | −22 56 5·0 | + 3·0 |
| 22 | I. & II. | 19 8 26·52 | − 0·07 | Centre | 1·6 | −22 55 14·8 | + 2·9 |
| 24 | I. & II. | 19 9 33·35 | 0·00 | Centre | 1·6 | −22 53 29·4 | + 3·4 |
| Nov. 1 | I. & II. | 19 14 24·04 | + 0·06 | ........ | ........ | ........ | ........ |
| 3 | I. & II. | 19 15 42·18 | − 0·07 | ........ | ........ | ........ | ........ |
| 9 | I. & II. | 19 19 49·52 | 0·00 | Centre | 1·6 | −22 35 51·7 | + 5·0 |
| 23 | I. & II. | 19 30 30·51 | − 0·08 | ........ | ........ | ........ | ........ |
| 29 | I. & II. | 19 35 29·06 | + 0·14 | Centre | 1·5 | −22 4 6·0 | + 6·9 |
| 30 | I. & II. | 19 36 19·94 | + 0·09 | Centre | 1·5 | −22 2 18·7 | + 1·0 |
| Dec. 3 | I. & II. | 19 38 54·58 | + 0·02 | ........ | ........ | ........ | ........ |
| 17 | ........ | ........ | ........ | Centre | 1·4 | −21 25 48·2 | + 3·4 |

## Observed Right Ascensions and Declinations of Saturn.

| Date. | Right Ascension. | | | Declination. | | | |
|---|---|---|---|---|---|---|---|
| | Limb observed. | Right Ascension of Centre. | Difference from Nautical Almanac. | Limb observed. | Parallax in Declination. | Declination of Centre. | Difference from Nautical Almanac. |
| 1842. | | h. m. s. | s. | | " | ° ′ " | " |
| June 22 | I. & II. | 18 51 30·34 | + 0·58 | Centre | +0·9 | − 22 22 34·0 | + 17·1 |
| 23 | I. & II. | 18 51 11·93 | + 0·62 | Centre | 0·9 | − 22 22 58·1 | + 20·1 |
| 28 | ........ ... | ............... | ......... | Centre | 0·9 | − 22 25 19·4 | + 15·0 |
| July 6 | I. & II. | 18 47 6·80 | + 0·48 | ......... | ......... | .................. | ......... |
| 7 | I. & II. | 18 46 47·97 | + 0·56 | ......... | ......... | .................. | ......... |
| 13 | I. & II. | 18 44 55·60 | + 0·46 | Centre | 0·9 | − 22 31 58·9 | + 16·0 |
| 14 | I. & II. | 18 44 37·26 | + 0·55 | Centre | 0·9 | − 22 32 23·4 | + 17·1 |
| 15 | I. & II. | 18 44 19·06 | + 0·66 | Centre | 0·9 | − 22 32 50·4 | + 15·5 |
| 16 | I. & II. | 18 44 1·00 | + 0·80 | Centre | 0·9 | − 22 33 15·2 | + 15·9 |
| 22 | I. & II. | 18 42 14·47 | + 0·46 | Centre | 0·9 | − 22 35 39·6 | + 17·9 |
| 23 | I. & II. | 18 41 57·37 | + 0·49 | Centre | 0·9 | − 22 36 4·1 | + 16·9 |
| 27 | I. & II. | 18 40 50·59 | + 0·31 | Centre | 0·9 | − 22 37 36·9 | + 15·7 |
| 29 | I. & II. | 18 40 18·64 | + 0·40 | Centre | 0·9 | − 22 38 20·1 | + 16·7 |
| 30 | I. & II. | 18 40 3·25 | + 0·68 | Centre | 0·9 | − 22 38 41·1 | + 17·4 |
| Aug. 1 | I. & II. | 18 39 32·44 | + 0·48 | ......... | ......... | .................. | ......... |
| 2 | I. & II. | 18 39 17·62 | + 0·59 | Centre | 0·9 | − 22 39 46·8 | + 15·0 |
| 3 | I. & II. | 18 39 2·98 | + 0·61 | Centre | 0·9 | − 22 40 7·5 | + 14·8 |
| 11 | I. & II. | 18 37 16·06 | + 0·64 | ......... | ......... | .................. | ......... |
| 13 | I. & II. | 18 36 52·35 | + 0·53 | Centre | 0·9 | − 22 43 18·0 | + 12·1 |
| 15 | I. & II. | 18 36 29·96 | + 0·41 | ......... | ......... | .................. | ......... |
| 20 | I. & II. | 18 35 40·60 | + 0·55 | Centre | 0·9 | − 22 45 5·4 | + 16·7 |
| 22 | I. & II. | 18 35 23·36 | + 0·58 | Centre | 0·9 | − 22 45 34·1 | + 17·0 |
| 24 | ............ | ............... | ......... | Centre | 0·9 | − 22 46 1·6 | + 17·3 |
| 30 | I. & II. | 18 34 29·44 | + 0·50 | ......... | ......... | .................. | ...... .. |
| Sept. 12 | I. & II. | 18 33 57·02 | + 0·18 | Centre | 0·9 | − 22 49 20·0 | + 14·4 |
| 17 | I. & II. | 18 34 3·98 | + 0·54 | ......... | ......... | .................. | ......... |
| 19 | I. & II. | 18 34 9·54 | + 0·51 | ......... | ......... | .................. | ......... |
| 20 | I. & II. | 18 34 12·89 | + 0·43 | ......... | ......... | .................. | ......... |
| 30 | I. & II. | 18 35 10·06 | + 0·25 | ......... | ......... | ................ . | ......... |
| Oct. 4 | I. & II. | 18 35 44·61 | + 0·26 | ......... | ......... | .................. | . ....... |
| 7 | I. & II. | 18 36 14·81 | + 0·30 | ......... | ......... | .................. | ......... |
| 8 | I. & II. | 18 36 25·66 | + 0·28 | ......... | ......... | .................. | ......... |
| 11 | I. & II. | 18 37 0·62 | + 0·27 | ......... | ......... | .................. | ......... |
| 12 | I. & II. | 18 37 12·98 | + 0·20 | ......... | ......... | .................. | ......... |
| 13 | I. & II. | 18 37 25·96 | + 0·37 | ......... | ......... | .................. | ......... |
| 20 | I. & II. | 18 39 6·04 | + 0·29 | Centre | 0·8 | − 22 49 13·2 | + 10·3 |
| 24 | I. & II. | 18 40 11·23 | + 0·30 | Centre | 0·8 | − 22 48 31·4 | + 15·6 |
| Nov. 9 | ............ | ............... | ......... | Centre | 0·8 | − 22 44 50·0 | + 11·3 |

## OBSERVED RIGHT ASCENSIONS AND DECLINATIONS OF URANUS.

| Date. | RIGHT ASCENSION. | | DECLINATION. | | |
|---|---|---|---|---|---|
| | Right Ascension. | Difference from Nautical Almanac. | Parallax in Declination. | Declination. | Difference from Nautical Almanac. |
| 1842. | h. m. s. | s. | " | ° ′ " | " |
| Jan. 3 | ......... | ......... | + 0·3 | − 4 17 9·2 | − 25·5 |
| 4 | 23 27 56·92 | − 5·85 | 0·3 | − 4 16 25·8 | − 25·4 |
| 5 | 23 28 3·64 | − 5·67 | 0·3 | − 4 15 41·5 | − 25·5 |
| 6 | ......... | ......... | 0·3 | − 4 14 56·2 | − 25·6 |
| 7 | 23 28 17·16 | − 5·72 | 0·3 | − 4 14 9·5 | − 25·4 |
| Sept. 16 | 23 48 8·11 | − 6·51 | ......... | ......... | ......... |
| 17 | 23 47 59·18 | − 6·63 | 0·3 | − 2 9 55·0 | − 30·0 |
| 20 | 23 47 32·86 | − 6·49 | 0·3 | − 2 12 47·4 | − 31·0 |
| 26 | 23 46 39·97 | − 6·63 | 0·3 | − 2 18 28·2 | − 31·7 |
| 29 | ......... | ......... | 0·3 | − 2 21 15·0 | − 30·9 |
| Oct. 4 | 23 45 31·17 | − 6·63 | 0·3 | − 2 25 49·0 | − 31·5 |
| 7 | 23 45 6·18 | − 6·62 | 0·3 | − 2 28 28·9 | − 32·1 |
| 10 | 23 44 41·91 | − 6·49 | 0·3 | − 2 31 3·9 | − 32·2 |
| 11 | 23 44 34·02 | − 6·40 | 0·3 | − 2 31 53·9 | − 31·7 |
| 12 | 23 44 25·83 | − 6·68 | 0·3 | − 2 32 42·9 | − 30·7 |
| 13 | 23 44 18·01 | − 6·67 | ......... | ......... | ......... |
| 18 | 23 43 40·27 | − 6·68 | ......... | ......... | ......... |
| 19 | 23 43 33·15 | − 6·55 | ......... | ......... | ......... |
| 20 | 23 42 25·99 | − 6·55 | ......... | ......... | ......... |
| 24 | 23 42 58·53 | − 6·51 | 0·3 | − 2 41 51·8 | − 30·9 |
| 25 | 23 42 52·05 | − 6·40 | 0·3 | − 2 42 31·6 | − 29·8 |
| 26 | 23 42 45·37 | − 6·63 | 0·3 | − 2 43 11·9 | − 30·1 |
| Nov. 9 | 23 41 29·67 | − 6·39 | ......... | ......... | ......... |
| 18 | 23 40 57·02 | − 6·37 | ......... | ......... | ......... |
| 23 | 23 40 44·85 | − 6·41 | ......... | ......... | ......... |
| Dec. 8 | 23 40 36·08 | − 6·33 | ......... | ......... | ......... |
| 17 | 23 40 51·27 | − 6·16 | ......... | ......... | ......... |

## CALCULATION OF THE PLANETARY OBSERVATIONS.

The Tables, pp. 257–271, contain comparisons of the Right Ascensions and Declinations of the Sun, Moon, and Planets, deduced from the observations. with the values computed from the Nautical Almanac.

When both the limbs of the Sun or a Planet have been observed with the Transit Instrument, the Mean of their Right Ascensions is taken for the Right Ascension of the Centre.

When only one limb of the Sun or a Planet has been observed, the Right Ascension of the Centre has been determined by applying the semi-diameter in Right Ascension, taken from the Nautical Almanac.

The observed Right Ascensions of the Sun's and Planet's centres are compared with the values for the transits over the meridian of Edinburgh, computed from the Nautical Almanac.

From previous observations of the Moon's diameter, made with the Transit Instrument and Mural Circle, Professor HENDERSON found that the computed values, given in the Nautical Almanac, were too small. In reducing the observations of this year, the tabular semi-diameter in Right Ascension has been increased, as he recommended, by $\frac{1}{540}$ part, and in Declination by $\frac{1}{500}$ part. In Volume X. of the Memoirs of the Royal Astronomical Society, from a comparison of the Moon's declinations, observed at Greenwich, Cambridge, and the Cape of Good Hope, he also shewed that the Moon's parallaxes in BURCKHARDT'S Tables, which are employed in the Nautical Almanac, should be increased in the proportion of 57′ 0″·5 to 57′ 1″·8. These corrections have been applied in comparing the observations of the Moon with the computations of the Nautical Almanac.

The observed Right Ascensions of the Moon's limbs are converted into observed Right Ascensions of the centre for the transit over the meridian, by applying the times of the semi-diameter passing the meridian, taken from the Nautical Almanac, and increased by $\frac{1}{540}$ part, as mentioned above. The observed Right Ascensions of the centre are then compared with the values for the transits over the meridian of Edinburgh, computed from the list of Moon-culminating Stars in the Nautical Almanac.

The parallaxes in declination of the Sun, Moon, and Planets are computed on the supposition that the ratio of the Earth's axes is = 300 : 299, whence the reduced or geocentric latitude is 55° 46′ 43″, and the logarithm of the Earth's radius 9·999008. For the Moon, the rigorous formula is adopted, viz.:—

$$\text{sin parallax in declination} = \text{earth's radius} \times \sin(\text{equatorial horizontal parallax} + \text{Airy's correction}) \times \sin(55^\circ\ 46'\ 43'' - \text{apparent declination of limb.})$$

For the Sun and Planets, the small arcs were taken in place of their sines.

The horizontal parallaxes and semi-diameters were taken from the Nautical Almanac, the values for the Moon being corrected as above.

The parallax and semi-diameter in declination being applied, according to their signs (the sign of the semi-diameter being + for an observation of the South Limb, and − for an observation of the North), to the apparent declination of the Sun or Planet, given in the last column of the observations, the result is the geocentric declination of the centre deduced from observation.

The observations of Declination of the Moon's Limbs that were not fully enlightened have been corrected for the defect of illumination by the quantities mentioned in the notes.

The Declinations of the centres of the Sun and Planets for the Transits over the meridian of Edinburgh have been computed from the Nautical Almanac; and of the Moon, from the list of Moon-culminating Stars in the same work.

The signs prefixed to the differences from the Nautical Almanac, or the differences between the observed and computed places, indicate the manner in which the differences are to be applied to the computed or tabular places to obtain the observed.

## Observed Eclipse of the Sun in 1842.

July 7. End of Solar Eclipse observed by Mr Wallace with the Equatorial Telescope and the Dome Clock at $1^{h}\ 37^{m}\ 42^{s}{\cdot}5$ Sidereal Time.

## Observed Lunar Occultations in 1842.

| Date. | Time by Transit-Clock. | True Sidereal Time. | Object. | Phenomenon. | Instrument of Observation. | Observer. |
|---|---|---|---|---|---|---|
| 1842. | h. m. s. | h. m. s. | | | | |
| Apr. 13 | 9 50 18·0 | 9 50 29·0 | ∗ Pleiadum (Bessel 14) | Immersion at ☾'s dark limb | Sheepshanks' Equatorial | Prof. Henderson |
| ......... | 9 55 57·0 | 9 56 0·8 | ∗ Pleiadum (Bessel 25) | Immersion at ☾'s dark limb | ......................... | .................. |
| ......... | 10 39 5·0 | 10 39 16·0 | 26 Tauri (s Pleiadum) | Immersion at ☾'s dark limb | ......................... | .................. |

# APPENDIX, No. I.

## REPORT addressed by the ASTRONOMER-ROYAL OF SCOTLAND to the BOARD OF VISITORS, at their first visitation to the Royal Observatory, Edinburgh, December 6, 1848.

ROYAL OBSERVATORY, CALTON HILL, *December* 4, 1848.

GENTLEMEN,—Her Majesty's Government having been pleased to appoint you "to make an Annual Report on the manner in which the duties of this Establishment have been performed during the past year, and to make any suggestions thereon to Her Majesty's Government;" I beg to lay before you, in furtherance of your labours, an account of the principal matters which have been executed here, since I last had the honour of submitting a similar statement to the Secretary of State for the Home Department.

The general principles which have been followed during that period, have been a steady adherence to the system which I proposed of completely reducing and printing the results of the remaining Observations that had been amassed by my predecessor; and a preparation for the effective prosecution of the particular branch of Astronomy to which it was announced last year, at a meeting of the Royal Society of Edinburgh, that this Observatory would in future be devoted, and which has been generally approved of by Astronomers.

The practical details of the duties of the Establishment may be conveniently arranged and described under the following heads:—

1. The Buildings.
2. The Instruments.
3. The Observations.
4. The Calculations.
5. The Printing.
6. The Publication and Distribution of the printed Observations.
7. The Personal Establishment.
8. The Books, Manuscripts, &c.
9. The Financial Affairs.
10. The Professorial Duties of the Astronomer.

1. The extensive and thorough repairs which the Buildings have undergone, were begun in the month of August 1847, under the superintendence of Mr NIXON, Her Majesty's Architect for Scotland, and it was expected that they might be completed in six weeks; but when the timbers of the roof were uncovered, they were found to be in a state of decay, such as could have by no means been anticipated; and consequently the work to be performed occupied a much greater length of time than was at first contemplated. Then the protracted illness which began soon after the commencement of the operations,—and finally the death of Mr NIXON, contributed to retard the progress of the repairs.

The principal works performed during this period were, pointing the joints of the stones outside, renewing the ends of the joists of the floor which had rotted off under the meridian openings; making completely new meridian shutters for the roof, as well as the walls, and renewing the damaged plaster and wood-work in the neighbourhood, taking off and relaying the lead in the roof, and repairing many parts which were decayed, especially the southern wall-plate. An idea of the difficulty of the operations may be formed by the fact of the roof having to be supported on spars, while the old wall-plate, which was little better than touchwood, was being removed, and a new one inserted. Ventilating holes were made in various parts of the roof, to prevent in future such destructive effects of dampness, some additional beams were introduced into the roof under the dome, and the interior of the building was painted. Similar repairs were performed on the Old Observatory at the same time, and the whole were brought to a conclusion in March.

In August of this year, Mr MATHESON, of the Office of Woods and Forests, commenced the repairs of the dome, which was found to be so far decayed as to require its being taken down to the ground and rebuilt, preserving only the ribs of the old structure. The dome had experienced extensive repairs twice since its erection, the last time in 1835, when the lower curb was found to be so far decayed on one side, as even then to cause the question to be agitated of rebuilding it; it was, however, merely patched with iron bars, and the mischief continued to spread. During these alterations, the opportunity was taken to enlarge the opening of the dome, the former slit being found, in many respects, inconveniently narrow; and it would have been very desirable to have introduced a new railroad for the cannon-balls, on which the dome turns, to run in; but the funds at the disposal of the Architect did not allow of this. The Edinburgh Dome being the first which was ever made to turn on cannon-balls, it is not to be wondered at that some imperfections should exist which later experience has been able to remove; the railroad is merely a thin ring of brass, and flat, or rather convex on the surface, so that, with any inequality of motion or side pressure of the wind, the balls got jammed between the wooden sides of the channel, and these being made of plates of wood, sawn out to the curve, and so presenting the grain in different parts, at various angles, had worn away in some places so unequally, as to form holes which now and then caught the balls, and prevented the dome from moving. The defect has, however, been pretty nearly remedied, by paying great attention to securing exact circularity in the new wooden channel, and covering its sides with sheet-metal.

The inside of the dome has been painted a dark-blue colour, nearly black, to prevent reflection of stray light; and the lighter colour of the Transit and Circle-room has been deadened for the same reason. Mr Nixon, to whom I spoke on the subject, undertook to paint them a dark colour; but as he considered, that on account of the particular proportions of the columns and pilasters, they could only be with architectural propriety painted dark, in imitation of some such stone as porphyry or granite, I did not think myself justified in recommending the additional expense that would be incurred from this more ornamental staining.

Since Mr Nixon's death, Mr Matheson has ably filled his situation, and has been well seconded by Mr Kerr, the Clerk of the Works, and by Mr Robert Waddel, the Foreman of the Carpenters, who ought not to pass unnoticed, as he had the immediate management of nearly everything that has been done, and has continually exhibited an earnest interest in the progress and prospects of the Observatory that is to be rarely met with amongst the labouring classes.

There are still two or three little matters to be executed about the building; and owing to the peculiar construction of the meridian shutters, a certain quantity of water will always be driven into the roof during the storms of wind and rain which form here the rule and not the exception, during so large a part of the year; but measures are being taken to counteract the effect of such moisture as much as possible, by a system of circulation of air through every part of the roof; and, on the whole, the building may, I think, be considered to be now in a very satisfactory condition; so that it can be safely trusted to remain in those hands into which it has fallen, thus affording a fair prospect of Government permanently upholding the establishment in its present useful state, and in a manner creditable to the country.

2. *The Instruments.*—The two principal instruments of the Observatory, viz., the Transit Instrument and the Mural Circle, have undergone a considerable number of little alterations during the past year, with the general object in view of avoiding or compensating for almost every possible error, by the introduction of perfect principles to aid imperfect mechanism, and so render the observations as unexceptionable as possible; for, in the present day, when so many Observatories are actively engaged, it is far more desirable that each should produce a small number of good observations, than a large number of indifferent ones.

In computing, last year, the Transit Observations of 1841, it was found that the instrument was subject to so very large and anomalous a fluctuation in azimuth, as greatly to detract from its trustworthiness; and this affection, which was found to be produced by temperature, was subsequently traced up, in a convincing manner, to the unequal expansion and contraction of two adjusting screws in one of the Y bearings. As these screws are never employed in the use of the instrument, but the errors are measured and corrected for in the observations, the natural remedy seemed to be, to substitute plain Y blocks without any adjustments; and thinking—that it would only be fair to the maker of this, in every other respect, splendid transit-instrument, that he should be allowed to perfect it in this particular himself,—I wrote to REPSOLD, at Hamburgh, of the circumstances. He declining, however, to do anything in the matter, I was compelled to try if good transit *Ys* could not be made in Edinburgh; and the result, mainly owing to the ready skill of Mr J. ADIE, has proved very satisfactory.

As the larger instruments in the Observatory had to be covered up during the repairs of the building, it became necessary to erect a small instrument in the old Transit-room, in order to have the means of continuing to give the public the true time; and this small transit, a 30-inch one, was therefore mounted experimentally in the same manner as proposed for the larger one. The method proved eminently successful, for the position of the little instrument did not vary, during the whole winter, so much as $\frac{1}{10}$ of the quantity that the other would sometimes alter in twenty-four hours; the great *Ys* were therefore prepared, and applied in the course of the summer, soon after the workmen had left the interior of the Observatory once more free. As these alterations will be specially described in the Introduction to the next volume, it may suffice to state, that the new *Ys* are blocks of cast-iron of the area of the top of the stone pier, and three inches thick, very stable therefore on account of their weight, assisted by the action of large screw-bolts in the middle, and cement round the edges.

The spirit-level was, at the same time, altered from a hanging one to a riding one, and means adopted for suspending it from the ceiling, and applying it to the axis, mechanically as it were, rather than by hand. The fixation of the sliding eye-tubes was improved by the introduction of a number of new screws, all the old ones were tried to make sure that they were doing their duty, and the instrument was painted over to prevent the progress of oxidation, which seemed to threaten otherwise to be dangerous.

On account of the increasing smoke of the city, the meridian and collimating marks at the Meadow-head and Leith Fort are now seldom to be seen; and when they are, no good observations of them can be obtained on account of their great proximity. I have, therefore, proposed to depend solely on the Pole stars for the azimuth; and for collimation, have fixed two marks on the north and south boundary walls, and placed them virtually at an infinite distance from the instrument, by inserting lenses of a proper focal distance, made by Mr DOLLOND, in the meridian openings of the room; these new marks, on account of their actual proximity, are therefore available under nearly all circumstances of atmosphere, and are seen very fairly defined.

As Professor HENDERSON suspected an unequal flexure of the axis or tube, some check on the spirit-level was desirable, as well as that the collimation should be also determined in some other position than the horizontal; a pier carrying a mercury-trough has therefore been built under the floor and below the instrument, and a diagonal-inverting-collimating eye-piece has been procured from Mr SIMMS, by which the level error and the collimation error can be determined in the vertical direction most satisfactorily, and at any time of the day or night without reference to objects beyond the walls of the building. But as the easy and safe reversal of the instrument was a necessary preliminary before such observations could be satisfactorily made, and as the reversing carriage was very uncertain in its action, that underwent an examination, and its defects were at last cured, by making a new top to the machine, of an improved shape, and by levelling the railroad on which the carriage runs, and strengthening the floor where it was found to yield.

Some advantages have been gained, it is hoped, in accuracy as well as in convenience, by removing the fixed wires, preserving only the system of micrometer wires, and placing them so close together that they are all visible in the field of view without moving the eye-piece; and as handles, acting only in the plane of the meridian, have been applied to the telescope-tube for moving the instrument by, there is no occasion for applying the hand to any part near the wires, and no motion is given to any part of the instrument at right angles to the meridian, or in the direction in which the measures are made, and in which it ought not to experience any bias. Means have been introduced of clamping the micrometer head to a particular reading, after any use may have been made of it.

These are all the alterations worthy of notice with regard to this instrument: Modifications and refinements on a similar principle have been adapted to the Mural Circle: thus, the clamps being found to twist the circle, and not being necessary to a practised hand and so stable an instrument, have been removed; likewise the fixed wires, in imitation of Mr AIRY's happy idea of simplifying the practical process of such observations, and first adopted by him in the case of his Ordnance Zenith Sector. A new micrometer-screw has been made by Mr SIMMS, as Professor HENDERSON did not consider the former one trustworthy, and as the former method of reading off the revolutions admitted water into the interior of the micrometer, and had rusted the screw; a novel plan has been adopted to counteract this defect, and has the advantage also of exhibiting the readings on a larger scale. A diagonal-inverting-collimating eye-piece has been applied, of such a construction, as to be equally applicable for observations of stars and of the collimating-trough; and in the former case, may, when desired, be employed to shew the wires luminous in a dark field, thus rendering the smaller object-glass of this instrument more equal to the magnificent one of the transit for observing very faint objects. The ends of the spokes, which are touched when moving the circle, have been covered with cloth, to counteract the heat of the hand; and the divided rim is defended from solar radiation, and from the dropping of water, dust, &c., by a metal flange, which has been fastened to the pier, and closely encircles the greater part of the rim.

As some exception might be taken to the mode of reading off the divisions by the microscopes, whose reflectors were mounted on the object-glasses, and were sometimes adapted to the daylight, and at other times to a lamp held in the hand, and held far closer than desirable on other accounts, by reason of the darkness of the field caused by the small aperture of the object-lens, the following alterations have been made: the reflectors have been mounted in a short piece of tube, separated from the microscope, and fixed to the pier in such a manner that no light can ever fall upon the divisions except that coming from one fixed direction, and two lamps have been fitted up with fixed radiating tubes and reflectors to throw their light into the six microscopes at the proper angle, as well as to illuminate the clock's face and the field of the telescope.

The Thermometer which is noticed for the computation of the refractions has been raised to a greater height from the ground than before, to avoid the radiation of its heat; and the Barometer has been placed more immediately under the meridian openings.

To prevent the injurious effect caused to definition by the hot air of the lamps finding its way out naturally by the same opening that the stars are being observed through, ventilating tubes are being applied, to carry off to some innocuous part of the roof all the products of combustion; and as much inconvenience arises occasionally from the congealing of the oil in the lamps, gas is being introduced wherever a fixed light is required.

On the whole, these two instruments, the Transit and Mural Circles, may be considered to be in a very satisfactory condition, and capable of producing work of the highest quality; but there is one untoward circumstance which I am afraid there is no getting rid of, that is, the superabundant deposition of moisture after cold weather; more water, indeed, lodges on the metal and stone than if they had actually been exposed to the rain outside; screening or covering up, which was tried, only makes the matter worse; for, by preventing the circulation of the warm air, the conducting surfaces keep their low temperature, and their resulting condensation of moisture continues the longer. In my last Report I had to mention the ruinous state, and almost disintegration, with which it was discovered in

1846 that the Mural Circle was threatened, much to the astonishment of every one, in the case of so new an instrument, and supposed to be of so good a material; but my experience now of what the instrument had been undergoing ever since its erection here, completely frees from imputation the lasting qualities of the metal, for no sort of wrought brass could stand such exposure with impunity. The mischief is believed now to be very efficiently arrested by the thick painting of every part of the instrument except the divided and the rubbing portions, and the Circle seems as stiff as ever. The opportunity was, moreover, taken during a particularly dry part of the summer, to paint all the stone piers, and the number of coats which were sucked in, before any gloss was exhibited on the surface, shewed how advisable the operation was in preventing the excessive alterations of the hygrometric conditions of the stone, which would otherwise undoubtedly occur.

The Equatorial has likewise experienced sundry small improvements; this instrument was presented to the Observatory by the Rev. RICHARD SHEEPSHANKS, M.A., and was then mounted on a portable mahogany stand; from this it was transferred some years ago to an equatorial mounting erected in the dome, on a modification of the Munich form,—but not a very successful one, for it was so weak as to bend two or three inches at the eye end, on very slight pressure with the finger; and was, consequently, in such a state of constant tremor in its windy locality, that tolerable definition could never be obtained but with the lowest magnifying power; and even then, no screw or wire micrometer could be employed, but merely the notation of transits; the centre of motion is, moreover, so far above and to one side of the centre of the dome, that the telescope, in some positions, comes inconveniently close to the ribs and shutters, while, in others, there is nearly its own length to spare. Under such circumstances, I have commenced a new stand of rather a novel construction, to suit all the circumstances and desiderata of the place; but have meanwhile strengthened the former mounting, introducing a new declination-frame and circle; and a driving-clock, which was found in the Observatory, was applied to the hour-circle. The governor of this clock, however (two revolving pendulum-balls rubbing against the inside of a conical brass box), was found to possess an inherent defect of fits of knocking, of so violent a character and frequent occurrence as to prevent any use being made of it while observations were being taken. The London opticians to whom I applied for a remedy, confessed themselves unable to give any, to check these capricious, and apparently uncontrollable vagaries; but, on examining into their laws, I was induced to think that the evil arose from the condition of unstable equilibrium in which the vertical spindle was placed, revolving quickly, and imperfectly supported by the contact of the two pendulum-balls against the inside of the fixed brass case, at points 180° or nearly so apart. Such a case was easily to be met by adopting three pendulums at 120° apart, and, on being tried, were found to answer beyond expectation, as the balls have never shewn the slightest attempt to knock since; and Mr SIMMS, the maker of the clock, to whom I communicated the improvement, informs me that he now adopts it in all his instruments.

The connection with the clock was originally arranged to be made by turning a clamping-ring on a sprung tube, which contained within it a cylindrical rod connected with the endless screw of the hour-circle; but this plan being found inconvenient, as it necessitated the observer's leaving the eye-end of the telescope, and tended by the direction of its action to throw the star out of the field, as well as to do violence to the motion of the clock, the following method has now been adopted:—A bevelled wheel capable of sliding up and down the rod, turned by the clock, is pressed by a spring into gear, with a similar wheel fixed to the endless screw; by pulling a string, which can be brought close to the eye-end of the telescope in all positions, the first wheel is depressed below the other, and the connection with the driving-clock is consequently broken; on loosening the string, the clock-wheel, which is still revolving, comes again into gear with that on the end of the screw, and so gently, by reason of the large diameter of the wheels, and the smallness and sharpness of the teeth, that the position of the star in the field of the telescope is not sensibly disturbed.

The Equatorial is now, then, in a pretty fair condition; but the stand is by no means all that it might be; and the object-glass, though good for its size, has not the optical power which the principal telescope of the Establishment should possess.

The Rock Thermometers, established by Professor FORBES, are in a perfect condition, excepting the scales, which have oxidized so rapidly since they were resilvered in 1846, that they are now barely legible; and the danger of cleaning them or the glass stems, or of taking them off, is so great, that the adoption of new scales, of a less oxidizable material, is contemplated.

The self-registering Anemometer, belonging to the British Association, and erected, at their request, on the top of the old Observatory some years ago, was taken down this summer, at the request of that body, and, being nearly worn out, was sent to York.

About the same time, it became necessary for the Royal Society to remove their Anemometer from Granton Pier, and not having any other place to establish it in, or any persons to attend to it, the Secretary proposed to lend it to the Observatory; this idea I gladly closed with, as it seemed very desirable that some sort of register of the weather should be kept here, and this particular instrument was represented to be one of the latest and most improved construction. It was accordingly erected in the place of the old one, and was found to be on a much better principle, but so imperfectly carried out, that much delay and expense has been incurred in getting it into proper order. The inside of its clock was found to be copiously rusted, and this proved to be a consequence of the rain running down the pressure-rod, and being discharged amongst the works of the clock.

The remedying of this took up a considerable time, as the effect of any application could not be tested but by violent storms from particular quarters.

Another inconvenience was, that the cylinder on which the register paper was wound, turned round in six days instead of seven, as required, in order to make the time for putting on a new paper fall on the same day of each week; the adjustment of this has been effected by introducing a new pinion, with a different number of teeth, to the old one.

Then the paper on which diagrams were to be made was so wretchedly ruled, that amongst spaces intended to be equal, some were actually twice as large as others; and by a strange blunder, the hours are made to increase from left to right at the top of the page, and from right to left at the bottom. This, added to the circumstance of the table being in two pieces pasted together, necessitated the engraving of a new plate. A copperplate-engraver's estimate which was obtained being found unnecessarily high, a lithographer was applied to, but he, after keeping the paper for two months, gave up the job, and it has at last been executed on zinc.

3. *The Observations.*—The principal instruments being covered up to keep them from injury during the long period of the repairs, when the building was almost entirely in the hands of the workmen, but few observations have been made. The Moon and stars culminating near her continued to be observed up to the time of the repairs, and since they have been completed, the various alterations and testing their results has occupied most of our time.

An uninterrupted series of star observations was, however, kept up with the small transit, in order to furnish the public daily with the true time; and this seems to be so important a measure, and such extensive chronometer interests are dependent on it, that the erection of a time-ball, by which the time might be at once generally published, instead of compelling every one, as at present, to bring their chronometers all the way from Leith, for instance, would be a real boon to the public.

In the autumn of 1846, two of the Tidal Harbour Commissioners were appointed by the Admiralty to report on this subject, and after making personal examinations and inquiries here and in Leith, they sent in a very strong recommendation of the project. The Lords of the Admiralty, however, after receiving the report decided on not doing anything in the matter, on the plea of Leith not being a Government Dockyard. The Chamber of Commerce in Leith memorialised on the subject, when this decision was made known; but there the matter still rests.

The Professor of Natural Philosophy in the University having expressed a desire last spring to have the correct time signalled to him at the College, and ordinary signals not being found available, a heliotrope has been constructed for employing the light of the Sun; and this having been found to be abundantly visible through the intervening smoke, I have fixed up the screen as a permanency, considering that the College has always a claim on such services from the Observatory.

4. *The Calculations.*—The Observations of the year 1841, which, at the date of the last Report, were commenced upon, have been finished. The only alteration made on the method followed in former years has been the manner of computing the Transit Corrections, in which each element is now exhibited separately, and this mainly led to the important discovery of the large fluctuation of the instrument in azimuth, and which has since been happily corrected. The Observations of the year 1842 have likewise been reduced entirely, with the trifling exception, as yet, of the comparison of the observed declinations of the planets with the Nautical Almanac.

Sundry portions of the observations of the years 1843–4–5 and 6 have likewise been reduced, in order to furnish corresponding ones of the moon and the stars in her neighbourhood, to officers of the United States Topographical Engineers for the fixation of longitudes on the boundary, and to Commander H. SHADWELL, R.N., who is calculating the longitude of Van Diemen's Land; and this gentleman has furnished, in a recent letter, a tolerable proof of the watchfulness of the British Observatories in making the most of their small allotment of blue sky, by the statement, that, in nearly all the cases of corresponding observations between Edinburgh and Hobart Town, he had procured measures on the same night from Greenwich and Oxford; a rather unexpected instance, too, this of the general similarity of climate in the main over all Great Britain.

These calculations of the years 1842–3–4–5 and 6 completely bear out the temperature fluctuations in azimuth, deduced from the Observations of 1841.

Preparations have been made for beginning a new system of observations, by drawing out printed forms (specimens of which are laid on the table), for the entry and complete reduction of the Transit and Circle Observations; and may be expected to produce, by their methodical arrangement, considerable saving of time. I had intended to have made a commencement in this line at midsummer, but, on communicating with the Astronomical Society, it seemed to be considered that the speedy bringing out of Professor HENDERSON'S Observations was of more immediate consequence; and as this was proved by the frequent requests from foreign Observatories for the results of his latter observations, and as, moreover, the repairs of the building were not then completed, I postponed the matter for a time, but expect to be fully prepared in January.

5. *The Printing.*—Since the last Report, the printing of the volume for 1840 has been completed; that for 1841 has been got through the press; and that for

1842 is in progress; the printers have reached as far as the proof-sheets now exhibited, and are making active advance.

As the Introduction to this volume will contain an account of the novel applications which have been made to the Transit instruments, and attended with such good effect; and as the Introductions usually contain matter which is of a much more popular nature, and more generally interesting than the mass of the work; while there are, on the other hand, many Institutions and individuals whose scientific claims deserve some acknowledgment, but who receive no copies of the complete volume, of which only 250 copies are printed off, I represented the matter to Her Majesty's Government, and Her Majesty's Government, with the liberality which has characterised all its proceedings from the first transfer of the Observatory, has been pleased to allow 350 extra copies of the Introduction to be printed off.

6. *The distribution of the Publications.*—The extra copies of the Introduction are to be distributed according to a scheme which is in part drawn out and entered in the Observatory books. The entire volumes are distributed according to a plan proposed by Professor Henderson, and approved of by Government on two separate occasions; by which the Royal Society of London were to have the patronage of 60 copies, for the same members as they furnished the Greenwich Observations to; the Royal Astronomical Society were to have 100 on the same conditions; 40 were to be at the disposal of the Astronomer-Royal for Scotland; and the rest were to be in part kept, and in part disposed of by sale to the public. The volume for 1840, the first of which I superintended the publication, was distributed in precisely the same manner as all the former ones, the Royal Society and the Royal Astronomical Society respectively paying the expenses of the transmission of all those copies of which they had the patronage. The volume for 1841 was sent from here in a similar manner to the former ones; but, much to my astonishment, the Royal Society refused to take in their box of copies, and ignored all knowledge of any transactions or arrangements connected with the former volumes.

Much correspondence followed, but though I examined all the records on the subject in the Observatory correspondence, found Professor Henderson's several letters, submitting the scheme for the approval of Her Majesty's Government, and the answers from the Lords of the Treasury approving of the same,—yet I could not find anything from the Royal Society on the subject; and that body suggested, that the arrangement must have been made privately with their Assistant-Secretary, without the authority or knowledge of the Council; but at the same time volunteered to forward in the parcels of their Transactions any copies of Edinburgh Observations intended for the same parties, provided that the Observatory bore all the expense.

I leave it, however, to the Board to determine, as this is not exactly the plan agreed to by Her Majesty's Government, and as the Observatory can ill afford any additional expenses, whether some communication should not be made to Government on the subject. Meanwhile, as I had no personal knowledge of the condition and character of many of the foreign establishments, whose names were on the List of Presentees, I enclosed letters to such, in the volumes addressed to them (the whole of the copies being at length transmitted to their various destinations, through the obliging courtesy of the Assistant-Secretary of the Astronomical Society, and by private hands), requesting an acknowledgment of the arrival of the books, and reciprocity in the communication of publications.

This plan, if continued, with the remainder of Professor HENDERSON'S volumes, will then give good independent means of making out a list of really working scientific institutions, to be presented with copies of our future Observations.

7. *The Personal Establishment.*—The Assistant-Astronomer, Mr ALEXANDER WALLACE, M.A., has continued to shew his usual activity and perseverance in the calculations; and I have likewise to acknowledge the readiness with which he has entered into all my alterations of the instruments, a necessary element in producing a successful result, as he makes all the Transit Observations. The extra duties of the past year have, moreover, been very trying, nay, positively disagreeable, from the Observatory being filled with workmen who had to be strictly looked after; but over whom, neither he nor myself had any direct control; and the greater part of last winter, it was not possible, with safety, to have any fire in the computing room where the calculations were performed, by reason of the roof, from which the lead had been stripped, presenting a dangerously inflammable surface. For the manner in which he has performed his duties throughout, he has my hearty thanks.

8. *The Books, Manuscripts, &c.*—No addition has been made to the books by purchase, but a considerable number have been presented, and the circle of corresponding Observatories and Societies is on the increase.

Professor HENDERSON'S manuscript Cape Observations, with his computations, were on the book-shelves, and it was supposed that they contained the still unpublished places of a great number of small Southern Stars. Under this idea, one of his most intimate friends, Mr T. GALLOWAY, M.A., with the hope of thus doing justice to the memory of the deceased, requested me to examine the MSS., and to let him know what was still required to be done to them, as he purposed to complete and print the calculations. After, however, going through the documents, which are contained in twenty-two volumes, large and small, I came to the conclusion, that all the Star Observations had been published in Professor HENDERSON'S papers, contributed to the Astronomical Society's Memoirs; that the peculiar results to be derived from Cape Observations of the principal Planets had appeared in the same quarter; that the calculations there given seemed to have been the product of several approximations, and were, therefore, considering his excessive exactness in such work, unlikely to be sensibly improved on; and that there only remained observations of the minor planets, which had been equally well observed at the same time in European Observatories.

On representing this to Mr GALLOWAY, and taking the books to him in London some time after, he considered that the recomputation of the whole observations *de novo*, and publishing them in the form of a usual Observatory volume, though it was what Professor HENDERSON had intended to do, still would add little to his reputation, or to the amount of knowledge and new facts in the Astronomical world; it would evidently have been rather a point of honour for the Cape Observatory to keep up its successive observations, under the different astronomers in one unbroken series, publishing them all in a systematic and available form. And hearing that Mr AIRY had obtained a special grant from Government, to reduce and print the Observations of Professor HENDERSON's predecessor at the Cape, the Rev. FEARON FALLOWS, M.A., Mr GALLOWAY applied to the Astronomer-Royal to know if he would undertake Professor HENDERSON's also; Mr AIRY, of course desired to see them first, and has them now with this view.

An ancient, tattered roll in the old Observatory, being found to contain a portrait of JAMES SHORT, the Edinburgh Optician, the most eminent and scientific of his day, and so closely connected with the first Astronomical Institution as to be considered one of the worthies of this spot,—it has been cleaned and restored, and suspended in the computing room; and the bust of another of our eminent men, the late lamented Sir G. MACKENZIE,—a bust executed by his own hand,—has likewise been introduced.

9. *The Financial Affairs.*—The manner in which the annual allowance for "lighting, cleaning, and repairing the Observatory" has been disposed of, may be seen by the accounts laid on the table. In consequence of the unusual number of alterations and additions to the instruments at the peculiar repairing epoch which has just occurred, the allowance fell very far short of what was required. I therefore requested and obtained leave of the Lords of Her Majesty's Treasury to have sold, by public auction, certain old, and to us useless, instruments, in order to procure funds for perfecting the more important ones. The sale took place last June, and all the articles were sold, excepting four; but three of these being subsequently purchased at the reserved prices, only one now remains on our hands; but this one being more valuable than all the rest put together, the whole of the expenses incurred have not yet been liquidated; but I hope, by strict economy in the coming year, to be able to meet all claims. The instrument which is still unsold is the large Altitude and Azimuth instrument; this has been in its packing-case for some years, and, with the exception of a round of terrestrial

angles, no altitude or azimuth observations have ever been made with it. There is no place for using it here, nor any objects to justify trying to do so; but, as it is a pity that so fine an instrument, or even the interest of its purchase-money, should be lying idle, I shall be glad to hear the opinion of the Board as to what should be done in this case.

I would also request the advice of the Board on one class of items in the accounts. I have thought, in reference to them, that I could not go far wrong in following the practice of my predecessor; but, as all the circumstances were then new, and the office in a state of transition, it may be proper, now that matters are permanently established, to have the question settled in an authoritative manner. I allude to some expenses on the Astronomer's residence, as insurance, and proprietor's portion of some taxes being introduced into the account for "lighting, cleaning, and repairing the Observatory." The Astronomer's residence being public property, is officially part and parcel of the Observatory buildings; and, as elsewhere, Astronomers-Royal have free dwellings, the items would seem to be charged fairly and properly, yet there is no particular authority on the subject, and other and larger expenses have, without precedent elsewhere, to be borne by the Astronomer. At the first establishment of the office, a sum of money was granted for building him a house in connection with the Observatory; but this being found impracticable, a portion of a house was purchased in Hillside Crescent, after a number of years, during the greater part of which the Astronomer had been allowed the interest of the money to hire lodgings. Still, instead of the Hillside Crescent dwelling being rendered free, as customary in similar situations, the official resident is obliged to pay out of his small salary the enormous feu-duty of £22 per annum, and double that sum every twenty-first year. Moreover, he has to bear the expense of keeping the house in repair, the Government judging whether the premises are kept up in a sufficiently high condition, by sending down an architect from time to time to make out a list of so-called dilapidations; and having them renovated at the expense of the incumbent for the time being, no matter whether the injuries have occurred during his residence, or whether he is likely to remain there sufficiently long to reap the benefit of this forced expenditure of his own money.

A case in point has now occurred, and the opinion of the Board is requested thereon.

The drains of the house have been getting out of order for a length of time past, and have gradually and increasingly been soaking through the stone flooring of the kitchen flat to such an extent as to produce a decay of the skirting board and a peeling of the plaster. In the beginning of this year, being tired of waiting an answer to a second Memorial which I had sent to the Lords of Her Majesty's Treasury, and being afraid of the premises receiving permanent damage meanwhile, I had some men employed several days in clearing the drains. But their labours have not proved successful, for the place is getting worse and worse, and evidently requires some much more extensive alterations ; these I should, on many accounts, much like to have done, and they imperatively require to be executed and that speedily, but I do not find myself able to do so.

10. *The Professorial Duties of the Astronomer-Royal for Scotland.*—Having received, in addition to the honour of the Astronomer-Royalship of Scotland, the now conjoined office of Professor of Practical Astronomy in the University of Edinburgh; and the duties of all the other Professors in the same establishment being comprised in delivering Lectures in their respective branches of learning, it was my first idea to attempt a course on my subject without loss of time. But when I found that no Lectures had ever been delivered from that Chair before; that there was no lecture-room, no apparatus, no class of students required to attend in any of the curricula of study, and no voluntary applications for such instruction; that the subject was treated of, to a certain extent, and that most ably, in the Natural Philosophy Class, which most of the students are compelled to enter; that the devotion of the whole time of my immediate predecessor was insufficient for accomplishing all that he was required to do in the Observatory, by virtue of his first office; and that there were very general and urgent desires expressed in the Astronomical World to have the valuable Observations which he left behind him speedily reduced and published; then I was compelled to consider this Observatory work as my bounden duty, to be undeviatingly carried out and kept up, in so far as lay in my power, to the same high standard to which it had been raised and so long maintained by Professor HENDERSON; a duty, with which, the rather problemetical experiment of trying to establish a course of lectures, should not be allowed to interfere.

While, however, I have been pursuing the former,—business which cannot now in any way be compromised and trifled with,—I have been endeavouring to make myself intimately acquainted with the present state of the University education, and with the requirements of the students, by hearing the lectures of the Professors of the most kindred subjects, and attending regularly all the meetings of the Senatus Academicus and the Faculty of Arts, with the view of finding out the reason of the hitherto anomalous condition of the Chair of Practical Astronomy, and of ascertaining the most suitable manner in which a subject verging so close on a professional business,—on a study, in which the exercise of the brain requires to be assisted by the skill of the hand and the practice of the eye,—could be introduced into, and made subservient to the general course of liberal education pursued in the College.

The situation seems to have been made for the first incumbent, Dr BLAIR, rather as a means of giving him encouragement and assistance in the prosecution of a highly important branch of practical optics, than as an inducement to lecture. Certainly he did nothing in the latter way, while he accomplished much in the former.

On Dr BLAIR's death, however, considerable anxiety was shewn that the duties of the Astronomical Chair should be assimilated to those of the other Chairs in the same University; though it was allowed that the salary of £120 per annum, and the very small number of pupils (estimated by Professor WALLACE, in a Memorial sent to Government on the subject, for reasons then given, at six, in the most favourable years), would form but small encouragement to an Astronomer of reputation; still it was expected, and with reason, that when the course had been once regularly established, the mere general fame of the ancient University would be sure to increase the number.

But taking what he calculated would be the greatest possible number of students for a long series of years, Professor WALLACE shewed that the teaching of each of those students would cost the country one-sixth of the Professor's salary, or £20 a-year; an absurdly exorbitant sum, when contrasted with the salaries of the Mathematical and Physical Chairs, and the very large number of pupils attending them. He therefore proposed, that some use should be made of the Astronomer other than in lecturing, and concluded that he might very advantageously be charged with the management of the Observatory, which had then been newly erected on the Calton Hill.

It was also remarked, that the due and permanent establishment of this Observatory would give Scotland the opportunity, which she had never had before, of distinguishing herself in Practical Astronomy. By reason of the expensive character of instruments required in this branch of learning, and the constant and persevering devotion of time required both by day and by night,—most of those who have distinguished themselves in its various branches, have, in every country, been connected with Observatories established by Government or by eminent public bodies. But Scotland had no such institution to elicit and mould the genius of her sons, though NAPIER, MACLAURIN, and the GREGORYS shewed what sterling material is to be found amongst them; and it becomes the cheering privilege of the present Board to confirm this national tendency, and sow the seeds for Edinburgh rising into generous emulation with the Observatories of the sister kingdom.

Such was the state of the subject when Professor HENDERSON was appointed, and as he only had, in the whole of his career, two applications for instruction in Practical Astronomy, he preferred to obey the impulse of his genius at the Observatory, and fill up a blank which long existed in the astronomical character of his country; in her claims to having contributed any necessary facts of important materials towards the present structure of the science. How well he accomplished this, is shewn by his having improved most of the very subjects in the discovery of which the older Observatories had gained most of their fame; having succeeded in doing that which BRINKLEY erroneously thought he had done; namely, determining the parallax of a fixed star; a measure which had long been the cynosure of all astronomers: his amended values of the parallax and diameter of the moon, and of other similar quantities are now generally used in Observatories; and his places of the principal Southern stars are considered the most accurate that have been produced for that region of the sky; and, finally, I hope in a year or eighteen months from the present time to have completed the reduction of the remainder of his Edinburgh Observations, and to have produced a standard catalogue of all the stars observed by him here, from his first appointment to his untimely decease; and it may be expected well to deserve and to do honour to the title of "the first Edinburgh Catalogue."

On the completion of this, the new system of observation and reduction, previously mentioned, will be established; and then, I may hope to have some spare time, which I shall be glad to devote towards trying to institute a Course of Lectures in the College. Such an employment may doubtless prevent so much work being done in the Observatory as would otherwise be the case; it must diminish the quantity of new facts which the office can furnish towards the promotion of the Science; but when any person has been enabled, at the public expense, to prosecute any practical subject to a greater extent than is possible for most other men, then it becomes a duty in him to endeavour to make the public masters of what he may thus have learnt at their cost, and render the path more practicable for subsequent labourers.

I have not yet communicated immediately with the Senatus Academicus or the Faculty of Arts on the subject, preferring to wait until I should be in a condition immediately to act upon any advice which those learned bodies might be pleased to favour me with; but I cannot conclude without most warm and hearty acknowledgments to all my brother Professors, for their unvarying friendliness, for their sincerity and readiness in offering the right hand of fellowship to a stranger, and for their assistance in all my enquiries. May coming years prove me more worthy of the consideration which they have kindly bestowed on me.

C. Piazzi Smyth.

# APPENDIX, No. II.

## REPORT addressed by the ASTRONOMER-ROYAL FOR SCOTLAND to the BOARD OF VISITORS, at their second visitation to the Royal Observatory, Edinburgh, April 25, 1849.

ROYAL OBSERVATORY, CALTON HILL, *April* 21, 1849.

GENTLEMEN,—In compliance with the intimation of your Secretary, I beg to lay before you a Report, descriptive of what has been done here since your last meeting in December 1848, and of what is proposed for execution in the course of the ensuing year.

With regard to the present state of affairs, and to what has been accomplished, I will enumerate the subjects in the same order as in the last Report.

1. *The Buildings.* With the exception of completing the arrangements for the introduction of gas, for the perfect ventilation of the lights, and for the carrying away all the heated air, no further repairs or alterations have been effected, or have indeed been required, thanks to the excellent state into which the buildings have been put by the Architect of the Board of Works.

2. *The Instruments.* The Transit Instrument has not required any alterations or additions, having been found to be in a very perfect and satisfactory state; but the Clock has been continually in the hands of the maker for the three first months of this year, with the view of endeavouring to improve its rate, which had been for years past by no means equal to the requirements of an Astronomical Observatory, or to the degree of excellence usually attained elsewhere. The recent improvement of the Transit Instrument rendered the irregularities of the Clock so much the more glaring; and the present transition state of the Observatory seemed an appropriate time for effecting any adjustments that might be required in the machinery. The final applications seem, to a certain degree, to have been successful, as the Clock has kept a remarkably good rate during the last month, notwithstanding the violent alterations of temperature.

The Mural Circle may likewise be regarded as being in a perfectly efficient condition; for though an unexpected and apparently radical difficulty appeared in the employment of the collimating eyepiece to shew the wires *luminous* in a *dark* field, still this has now been got over. The collimating eyepiece of the Transit answering so well for this purpose in that instrument, one of similar construction was made for the Circle; but the annoyance was then found, that, from the particular radius of curvature of one of the surfaces of the object-glass, a reflected image of the illuminated collimating reflector was formed close to the wires; and thus filled the whole field with so much light, that the wires were seen as dark lines rather than bright, and a small star would have been as effectually extinguished as in the ordinary mode of illumination.

The several plans having been tried of illuminating the plane collimating reflector with parallel, converging, and diverging rays, and making the reflector itself curved, without any good effect, a novel construction has been adopted, which answers the end proposed perfectly; for the field remains sensibly just as dark as before, while the spider-threads are seen like exquisitely bright, silvery lines, and shew the same sort of images in the mercury-trough; so that the reading for the Nadir point of the Circle may be obtained with great accuracy, with precisely the same means, and in a very similar mode to that in which the stars are observed.

The Circle-Clock is in the hands of its maker, to attempt to rectify a looseness of the minute-hand, which frequently renders it difficult to know which minute the hand is pointing to; and to diminish the loudness of the beat, which, in calm weather, overpowers that of the Transit-Clock, even as heard at that end of the room. These, however, are comparatively unimportant matters, and in no way detract from the effectiveness of the Mural Circle, or need prevent observations being made with it.

To the Equatorial, some apparatus has been adapted for experimenting on the irradiation of light, according to the method of the Rev. BADEN POWELL; and the measuring micrometer has been altered so as to prevent the occasional "fiddling" of the wires, and insure greater truth in the motion of the frames. A wooden screw-frame and counterpoises have likewise been attached for the purpose of placing, at pleasure, a second telescope, of any size, side by side with that of the equatorial, so that both being carried round together by the clock-movement, and the same object being brought into the field of both, their comparative optical qualities may be certainly decided without any unknown elements being introduced, depending on differences of atmospheric and local circumstances, when, as is generally the case, the two instruments to be tried are in very dissimilar situations and circumstances.

I was induced to have this apparatus prepared, from having had two applications from astronomical amateurs to try the degree of excellence of telescopes which they had recently purchased before they went to the expense of mounting them equatorially, and building an Observatory to keep them in. To be able to comply with such requests seemed in every way desirable, and the advantage promises to be of more frequent occurrence in future.

Further, to facilitate the use of the instrument, the clock-moved hour-circle, which was before a fixed portion of the polar axis, has been disconnected therefrom, and being kept in continual motion by the clock-work, represents the equator of the sky, thereby enabling the telescope to be pointed at once to the *Right*

*Ascension* of objects, according to Mr AIRY's admirable contrivance for the Northumberland equatorial at Cambridge.

The Self-Registering Anemometer, which had required many little alterations to adapt it to its new position, has continued to work well since the date of the last Report: the roll of paper for the last week is exhibited on the table as a specimen of the results produced.

3. *The observations,* it will be understood from the foregoing account of the instruments, have not been numerous, and have been chiefly of a tentative nature, to examine into the qualities and detect the errors of the transit and clock. As one of the means towards this end, the former instrument has been reversed three times almost every night since the beginning of the year, in order to procure determinations of the errors of collimation and level. This has proved a most powerful check over the instrument, and one which, without the collimating eyepiece and other recent additions, could not have been attained by any amount of time or exertion.

Pending the establishment of the Time-Ball proposed and recommended at the last Visitation, increased facilities have been afforded the public for obtaining the true time from our Mean Time Clock, in the "Old Transit Room." Formerly, persons stood outside, exposed to the weather, and could with difficulty see the face of the clock through the window, and were never able to hear the second's beat. But the reorganization of the larger instruments having rendered the further use of the small transit in the "old room" unnecessary, that apartment has since been thrown open to the public under certain restrictions, and persons may now bring their chronometers inside, face to face with the clock, and obtain therefore a very perfect comparison. Further, to remove a stumblingblock yet remaining to some of the variety of individuals who come in the course of the day, the daily error of the clock, which used to be posted up on the window, and was occasionally applied by some in an erroneous manner, has been corrected instrumentally according to a method proposed by Mr AIRY: thus, if the clock have a losing rate, the amount may be rectified each day by bringing a spring into contact with the pendulum at the extreme end of each arc of vibration; for the effect will be to increase the rapidity of vibration slightly during the time, and may be so carried out as not to interfere with the regularity of the rate afterwards. The spring which has been applied to the clock in question, when kept constantly within the striking range, accelerates the rate two seconds in a minute, so that a small fraction of a second may thus be easily corrected. The clock has been keeping a very uniform and small losing rate all the year; and, being adjusted to the true time, as obtained from the transit clock, in the morning, keeps all the rest of the day within a second of it, and therefore quite close enough for all the ordinary purposes of navigators and chronometer-makers; indeed, the changes of rate of their portable time-pieces carried backwards and forwards—some of them two miles, must be of far greater amount. It had been feared, that the unlimited admission of the public, without any supervision, into the interior of the building, and into immediate proximity with the clock, might induce mischievously-inclined persons to try their skill in producing troublesome derangements; and this was the reason why, in all years past, every one was excluded from entering the building, and reduced to peeping through the window; but as far as the experience of this year has gone, I am happy to say, that no reason has appeared to make us repent of having given these increased facilities to the public for obtaining the true time.

4. *The Calculations* of 1842 have been completed, and those of 1843 are in progress.

5. In *the Printing* department, the volume for 1842, now on the table, has been finished; its appearance has been considerably retarded beyond the time I had at first anticipated, partly from having allowed the printer, when the manuscript was sent to him, to choose his own rate of progression, so long as the calculations of 1843 were in progress, and not ready for the press,—and partly from the great number of observations that were made in 1842; so that this volume is one-third larger than that of 1841, and more than twice as large as that of 1840. This year '42, seems indeed to have been the culminating point of my admirable predecessor's exertions; he had perhaps striven too much; and in 1843 he seemed compelled to draw in the rein, for in 1844 he languished and expired.

6. The *Publication and Distribution* of the volume for 1842 is preparing to be made on the same principle as last year.

7. The *Personal Establishment.* From the short space of time that has elapsed since the preparation of the last Report, and the long-tried character and well-proved services of the Assistant-Astronomer, Mr Alexander Wallace, M.A., as well as from the uniform nature of the duties, it is hardly to be expected that I should have any thing new or special to remark, but will content myself with saying, that the favourable mention which I felt bound to make of him to the Visitors last December, is equally applicable now.

8. The *Books, &c.* In the Appendix to the volume just completed, the satisfactory feature will be remarked, that the number of corresponding and reciprocating institutions, as testified by presentations of their works, is increasing; and I have much pleasure in pointing out the valuable donation by the Assistant-Astronomer, as a proof of the cordial interest which he takes in the office in which he has worked so long.

With regard to the second department of the Report, viz., an estimate of what is intended to be done during the ensuing year, and of what is considered desirable, I would say, that with regard to the *buildings,* there appears nothing to be proposed with regard to them, save the erection of some book-shelves in the small front-room, and some trifling repairs in the old Observatory, which will probably be arranged by the Government architect as part of the general "maintenance" of the building.

In the matter of *the Instruments*, nothing is wished for further in the case of either the Transit or the Mural Circle, both being now fit for any observations that may be required. The Equatorial is confessedly an inferior instrument, and very unequal in calibre to what would be generally expected in such a situation; but as the Meridian instruments are *the* instruments of this Observatory, and more than sufficient at present to occupy all the available time of the observers, I do not consider the case of the Equatorial as urgent, and therefore do not press it on the attention of the Visitors, while they are employing all their influence in bringing about more pressing and important affairs.

Not much will be attempted in the way of *observations*, as strenuous efforts will be made for the speedy completion of the *calculations* of 1843–44; but the instruments will be kept well in hand, and their capabilities tested, and the observers kept in practice, by determining places of small stars for extra-meridian observations, published in the Royal Astronomical Society's Monthly Notices; and both instruments and observers will, at least, be ready for much more extensive work, should occasion appear.

In the *Meteorological* department, all that has been done hitherto has been the observation of the rock thermometers, and the automatic registration of the strength and direction of the wind, and the quantity of rain. This must, however, be looked upon as very incomplete and unsatisfactory, until the weight, moisture, and temperature of the air be also measured at each of the four diurnal atmospheric tides, and each of these epochs must be determined by at least three observations made in or about the suspected time. Now, to take regularly, and without fail, these twelve observations, scattered pretty equally all through the twenty-four hours, is evidently far more than can be expected from two persons charged already with more important duties in an *Astronomical* Observatory, where each has an instrument to attend to, and where one may be occasionally required, by circumstances, to do the work of both. But if a photographic registering apparatus be supplied, this might easily be superintended; and as this sort of registration is wholly independent of the drag of mechanical effort which all other automatic machines labour under, the resulting determinations will be of as great value for the nicest philosophical investigations, as if made by the eye and the hand.

C. PIAZZI SMYTH.

# APPENDIX, No. III.

Books Presented *to the* Royal Observatory *since the last Publication.*

| Date. 1848. | | Donors. |
|---|---|---|
| Feb. 15. | Elementary Treatise on the Computation of Occultations and Eclipses, by Sir J. W. Lubbock, Bart. 1835, 8vo, | *The Author.* |
| | On the Theory of the Moon, and the Perturbations of the Planets, by Sir J. W. Lubbock, Bart. 8vo, | ……… |
| | Part 1, 1834, | |
| | … 3, 1837, | |
| | … 4, 1840, | |
| | … 5, 1847, | |
| | On the determination of the Elements of the Orbit of a Comet, by Sir J. W. Lubbock, Bart. 1835, 8vo, | ……… |
| | On the determination of the Numerical Values of the coefficients in any series consisting of sines and cosines of multiples of a variable angle, by Sir J. W. Lubbock, Bart. 8vo, 1848, | ……… |
| | The Measurement of the Lough Foyle Base Line. 1847, 4to, | *The Hon. Board of Ordnance.* |
| | Memoirs of the Royal Astronomical Society, Vol. XVI. 1847, 4to, | *Royal Astronomical Society.* |
| | St Helena Magnetical and Meteorological Observations, 1840–3. 1847, 4to, | *Col. Sabine, R.A.* |
| | Nautical Almanac for 1851, | *Lt. Stratford, R.N.* |
| April 18. | Philosophical Transactions. Part II., 1847, | *Royal Society.* |
| | Proceedings of the Royal Society, Nov. 30, 1847. 8vo, | ……… |
| | Greenwich Magnetical and Meteorological Observations, 1845. | ……… |
| May 2. | Astronomical Observations at Hudson Observatory, New York, 1841–4, | *Professor Loomis.* |
| | Historical Notice of the Discovery of the Planet Neptune, 1848, | ……… |
| May 31. | Report of the University College, London, 1848, | *The College.* |
| | On the Correlation of Physical Forces, by W. R. Grove, 1846, | *London Institution.* |
| | On the Nature and Physical History of Glass, by E. W. Brayley, F.G.S., 1845, | *The Author.* |
| June 9. | Bond, Graham, and Peirce, on the latitude of Cambridge Observatory, U.S. Extracted from the Memoirs of the American Academy, 1847, | *Major Graham.* |
| July 10. | Observations Astronomiques faites à l'Observatoire de Genève dans l'année 1845, par E. Plantamour, | *The Author.* |
| | Memoire sur la Comète de Mauvais de l'année 1844, par E. Plantamour, | ……… |
| | Reductions of the Greenwich Lunar Observations, 1848, | *Royal Society.* |
| | Abstract Log for the use of American Navigators, with Eight Charts of Winds and Currents, by Lieutenant M. F. Maury, U.S.N., | *National Observatory, Washington.* |
| | Ephemeris of Encke's Comet, 1848, | *Lt. Stratford, R.N.* |
| | Greenwich Astronomical Observations, 1846, | *Royal Society.* |
| | Madras Observations, 1843–7, | *H. E. India Co.* |
| | Meteorological Observations at Dadabeta, 1847–8, | ……… |

| Date. 1848. | | Donors. |
|---|---|---|
| Oct. 23. | Radcliffe Observations by M. J. Johnson, 1843–4–5–6. Four Volumes, | *Radcliffe Trustees.* |
| | Annuaire de l'Observatoire de Bruxelles, 1847, | *M. Quetelet.* |
| | Bulletins de l'Academie Royale de Belgique, Tome XIV., 2 Partie, and Tome XV., 1 Partie, 1848, | ……… |
| | Catalogue des Livres de la Bibliotheque de l'Observatoire Royale de Bruxelles, 1847, | ……… |
| | Annales de l'Observatoire Royale de Bruxelles, Tome VI., 1848, | ……… |
| | Observations des Phénomènes Periodiques | ……… |
| | Proceedings of the American Philosophical Society, 1847, | *American Phil. Society.* |
| | Wind and Current Season Chart, | *Lt. Maury, U.S.N.* |
| Nov. 13. | Cambridge Observations for 1843, | *Cambridge Obsy.* |
| | Greenwich Magnetical Observations, 1846, | *Royal Society.* |
| | The Skerryvore Lighthouse and Notes on Lighthouse Illumination, by A. Stevenson, C.E. 4to, 1848, | *The Board of Northern Lights.* |
| Dec. | Beobachtungen der Dorpat, von J. H. Mädler, 1845, | *The Author.* |
| 1849. | | |
| Jan. | Untersuchungen uber der fixstern-systeme, von J. H. Mädler. 2 vols, folio., 1847–8, | ……… |
| | Berlin Beobachtungen, Band iii., fr., 1848, | *J. F. Encke.* |
| | Abhandlungen der Akademie der Wissenschaften, Munchen, 1847., | *Akad. der Wissen. Munich.* |
| | Nicholson's Journal of Natural Philosophy. 5 vols. 4to, and 36 vols. 8vo, 1797–1813, | *A. Wallace, M.A. Assist. Astr.* |
| Mar. 20. | Magnetische und Meteorologische Beobachtungen zu Prag, vols. 1–8, 4to, | *K. Kreil.* |
| | Magn. and Geogr. Ortsbestimmungen in Bohmen in den Jahren 1843–1845, von K. Kreil, | ……… |
| | Magn. and Geogr. Ortsbestimmungen im Österreichischen Kaiserstaate, 1se Jarhgang 1846, | ……… |
| April. | On the Theory of the Moon, Part VI., by Sir J. W. Lubbock, Bart., 1848, | *The Author.* |
| | On the determination of the distance of a Shooting-Star, by Sir J. W. Lubbock, Bart., | ……… |
| | Uranus, an ephemeris, Part I. 1849, Breslau, | *M. Boguslawski.* |
| | The Nautical Almanac for 1852, | *Lt. Stratford, R. N.* |
| | Makerstoun Magnetical and Meteorological Observations, 1844, | *Royal Society of Edinburgh.* |
| | Monthly Notices of the Royal Astronomical Society, 1848–9. | *Royal Astronomical Society.* |

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